BY ORDER OF THE COMMANDER,
PACIFIC AIR FORCES

AIR FORCE INSTRUCTION 21-101

PACIFIC AIR FORCES COMMAND
Supplement 1

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Maintenance

AEROSPACE EQUIPMENT MAINTENANCE MANAGEMENT

COMPLIANCE WITH THIS PUBLICATION IS MANDATORY

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This supplement prescribes policies and procedures governing aerospace equipment maintenance management in Pacific Air Forces (PACAF). It applies to all PACAF organizations and personnel that maintain aircraft, aircraft systems, equipment, support equipment, and components regardless of AFSC. It provides a broad management framework for the Group Commanders to adjust procedures to compensate for mission, facility, and geographic differences of the units. This supplement does not apply to the Air National Guard (ANG) or Air Force Reserve Command (AFRC); however, PACAF Reserve Associate Units will comply with the guidance provided within this supplement. The reporting requirements in this publication (unless otherwise specified) are exempt from licensing IAW AFI 33-324, *The Information Collections and Reports Management Program; Controlling Internal, Public, and Interagency Air Force Information Collections*. **Units will publish a single supplement to consolidate local policies mandated by the AFI and this supplement.** Send comments, questions, and suggested improvements to this publication on AF Form 847, **Recommendation for Change of Publication**, through channels to HQ PACAF/LGMM, 25 E Street, Suite I-326, Hickam AFB, HI, 96853.

SUMMARY OF REVISIONS

This document is substantially revised and must be completely reviewed.

AFI 21-101, 1 June 2004 is supplemented as follows:

1.1. This supplement supersedes all previous PACAF versions of 21-101, as well as any previous waivers or changes.

1.7. Units will publish a supplement to consolidate local policies mandated by Air Force and PACAF. QA will be the OPR for maintenance policy guidance and consolidation.

1.8.4. When aircraft maintenance functions are under consideration for contracting outside the organization, and before the requirement is forwarded to the contracting activity, a copy of the draft Statement of

Work/Performance Work Statement (SOW/PWS) must be sent to PACAF in sufficient time for staffing with the affected HQ functional managers. Any future substantial changes to the SOW/PWS must also follow the same coordination prior to change implementation. This instruction is applicable to Contractor Logistics Support (CLS) functions only to the extent incorporated into the applicable contract SOW/PWS or command agreements.

1.8.4.1. For maintenance contracts, the Functional Director/Commander (FD/FC) is normally the commander having overall responsibility for the maintenance function. As such, the FD/FC is the designated focal point for all organizational, functional, and technical questions pertaining to each contract.

1.8.4.2. **Chapter 19 (Added)** of this instruction provides additional guidance on contract surveillance and measurement areas. Each contract Service Delivery Summary (SDS) identifies the standards of performance.

1.8.4.6. Units will identify procedures to ensure there is a contingency plan to provide the contracted maintenance if the contract is terminated abruptly.

1.8.5.1. For maintenance contracts, the FD/FC is normally the commander having overall responsibility for the maintenance function.

1.16. Procedures for Waiver Requests: MXG/CC will send waiver requests to this instruction via e-mail to the PACAF maintenance policy branch. PACAF maintenance policy branch will coordinate the request with the PACAF functional managers for approval or denial by the Maintenance Management Division chief. Waivers will be approved against specific dated version of the instruction. Publication of an updated version of the instruction will require updating of all approved waivers. Waivers affecting multiple groups will be coordinated by all effected groups. Requests for waivers must justify why the unit cannot comply with the existing guidance, actions taken to achieve compliance, and expected date of compliance. Waivers will not exceed 1 year. PACAF will provide an info copy of approved waivers to the other MAJCOMs. Test and trial programs that deviate from this instruction are not authorized without prior MAJCOM approval. Waiver approval or denial will be sent to the MXG/CC requesting the waiver. PACAF maintenance policy branch will forward approved requests to AF/ILMM for final approval.

1.17. Variations from the standard organizations depicted in AFI 38-101 require PACAF coordination and Air Staff approval. Units with Air Staff approval to deviate from the standard structure will supplement this instruction with specific duties and responsibilities. The terms and responsibilities associated with the sections/chapters identified in this instruction may differ or may not be applicable to all units, based on unit size, mission, and MDS assigned.

1.20. The Maintenance Squadron (MXS, CMS, or EMS as appropriate) Production Superintendent (or designated equivalent), in coordination with AMXS production superintendents, sets priorities for specialist support from the maintenance squadron(s) for the flight line. Disputes for specialist support from the maintenance squadron(s) will be resolved at the daily production meeting or through discussion between the affected units and maintenance squadron supervisions. Repair priorities are for on and off-equipment.

1.22.3. Any CATM missiles used for exercises, Load Crew Training and inspections will be configured to the maximum extent possible with all safety devices and components to mirror the parent tactical munitions.

1.25. Maintenance personnel at all levels are responsible for identifying initial and recurring deficiencies of critical parts and support equipment. Proper identification of defective item(s) may initiate engineering

action(s) to improve Mean Time Between Failure (MTBF), thus increasing combat capability and reducing expenditure. Established criteria for Deficiency Reports (DRs) will include as a minimum the requirements contained in TOs 00-5-1, *AF Technical Order System* and 00-35D-54, *USAF Deficiency Reporting and Investigating System.*

1.27. Unit Committed Munitions List (UCML). The UCML is a list of primary munitions (PM), support munitions (SM), limited-use munitions (LM) and task qualification items necessary to meet unit operational/test/training requirements and is published IAW AFI 21-101. The list of PM cannot include more than 10 individual munitions or munitions family groups (MFG) combined per mission, design, and series (MDS) aircraft assigned. The UCML also specifies the minimum number of fully certified load crews required to meet unit requirements. PACAF may supplement UCML processing, coordination and appendix requirements.

1.27.2. Unit changes to the UCML/TTML will also be coordinated and processed through the OG/CC before sending it to higher headquarters and PACAF.

1.27.4. The WWM determines the number of fully certified load crews depicted on the UCML based on UTC requirements identified in applicable Designed Operational Capability (DOC) statements.

1.29. (Added) Vehicle Management Program. Commanders and supervisors at all levels are responsible for ensuring compliance with the provisions of AFI 24-301, *Vehicle Operations,* AFI 24-302, *Vehicle Maintenance Management*, AFMAN 24-307, *Procedures for Vehicle Maintenance Management,* AF Pamphlet 24-317, and PACAF supplements. Groups will publish procedures for:

1.29.1. (Added) Coordinating between vehicle maintenance and work centers for repairs (assistance in repair) on vehicle-mounted AGE.

1.29.2. (Added) Obtaining temporary replacement vehicles.

1.29.3. (Added) Ensuring special configuration of vehicles procedures include:

1.29.3.1. (Added) Vehicle operations approval of vehicle modifications and configuration changes to vehicles, including installation of trailer hitches or mirrors, before modification.

1.29.3.2. (Added) Vehicles authorized to carry explosives, and all vehicles operating within the munitions storage area are configured according to AFMAN 91-201.

1.29.3.3. (Added) Verifying that avionics and delicate equipment in an "unpacked" condition are physically protected during transit. The protection consists of cushioning designed to prevent excessive movement that might damage calibrated components as well as provide protection against weather.

2.2.6. Ensures the instruction contains a plan adequately covering CDDAR capabilities for all aircraft that frequently transit the base. This plan will include coordination and agreements with applicable local emergency/medical and security services, contract functions, in-theater aircraft wings, MAJCOMs, other branches of service, etc. Consider establishing an agreement with local airports to further enhance rapid response capability.

2.3.1.10. Ensures effective management of the wing's Maintenance Standardization and Evaluation Program (MSEP). The MXG/CC chairs the monthly MSEP meeting.

2.3.1.21. Establishes the Engineering Data Service Center (EDSC) program, if required.

2.3.1.44. Determines aircraft technical order file requirements. Files may be added to, but not reduced below requirements established by aircraft functional managers.

2.3.1.68. As applicable. ET&D does not apply to all airframes.

2.3.1.87. (Added) GP/CCs will jointly develop and publish parameters for use in day-to-day operations. Parameters will include the following as applicable: standard flying hour window, standard duty day, standard turn times, turn patterns, number of aircraft devoted to the flying schedule, average phase time remaining standard, minimum levels for essential maintenance assets to include aircraft, engines, pods, AGE. For example, if the minimum engine level is set at four and the level falls to three, supervision will be required to develop a plan to return to minimum levels.

2.3.1.88. (Added) Establish procedures to ensure personnel who accomplish TCTOs are trained to perform TCTOs that change established maintenance practices. Procedures must include a method to document and validate the training personnel receive on the new maintenance procedure.

2.3.1.89. (Added) Ensure emergency action (including severe weather) procedures are established and adhered to with regard to movement of aircraft, support equipment, and evacuation of flight line/in-shop personnel.

2.3.1.90. (Added) Ensures necessary wing procedures for effective CDDAR removal, including CDDAR removal training, are developed. These procedures must ensure rapid aircraft removal from active runways with the least possible aircraft damage.

2.3.1.91. (Added) Approves local manufacture requests for locally designed tools not approved in technical orders.

2.3.1.92. (Added) Ensures maintenance capability is considered in the development of the flying program. Continuous review ensures a long-term balance between maintenance capability and operational requirements.

2.3.1.93. (Added) Has cross-functional responsibility for standardization within the group. Standardization includes implementing maintenance discipline, quality, and philosophy to the greatest extent possible. The objectives of standardization are to ensure greater interoperability, improve maintenance quality, and ensure maintenance effectiveness.

2.3.1.94. (Added) Approves the selection of maintenance instructors in writing.

2.3.1.95. (Added) Appoints the Deputy MXG/CC as the alternate wing OAP manager.

2.3.1.96. (Added) Publishes a directive covering all specific repair and reclamation section tasks, to include responsibilities for the rigging of all primary flight controls with the exception of helicopter crew chiefs that rig their own flight controls.

2.3.1.97. (Added) Establishes a RAMP Inspection Program IAW Chapter 18, if tasked.

2.3.1.98. (Added) Implements a tank build-up program to meet UTC requirements as outlined in the mission capability statement and Chapter 18. (Added) where required. Training requirements will be determined by the MXG/CC. The MXG/CC is also responsible for maintaining both built-up and nested WRM tanks.

2.3.1.99. (Added) Establishes procedures in coordination with the WG/CC and GP/CCs formalizing unit Concurrent Servicing Operations (CSO). Ensures the CSOs are thoroughly planned to meet combat sortie production needs. Determines the need to employ CSOs to meet the unit's combat sortie generation tasking under current war plans and possible contingency operations. The need for CSOs will be periodically reviewed/updated to meet any changes in the unit’s combat sortie production requirements.

2.3.1.100. (Added) Ensures training course control documents are coordinated annually through the wing weapons safety office and the Maintenance Training Flight as required.

2.3.1.101. (Added) Ensures a hot pit refueling site certification official is assigned for all base/deployment locations, as required. Refer to paragraph 18.17.

2.4.22. (Added) Has knowledge of automated maintenance information systems and ensures their use.

2.4.23. (Added) Ensures records are maintained according to AFMAN 37-139.

2.4.24. (Added) Ensures compliance with Civil Service Commission and Air Force 36-1 through 36-12 series directives.

2.4.25. (Added) Appoints a squadron LMR manager.

2.4.26. (Added) Designates a squadron or AMU mobility NCO who acts as a focal point for mobility.

2.5.1. Ensures the Engineering Data Service Center (EDSC) is used to obtain information/specifications when technical orders do not provide enough detail.

2.5.2. Units may elect to physically co-locate orderly room and technical administration when economy of effort and span of control warrants. **NOTE:** Specific AFSC defined duties should not be consolidated among orderly room and technical administration personnel.

2.5.24. Reviews manpower authorizations, changes to authorizations, and functional activity codes (FAC) and work center alignment. **NOTE:** All FACs may not be identified in the organizational chart as they appear on the UMD. Organizational charts reflect AFI 38-101 requirements, and some sub-functional areas (below flight level) may not be depicted.

2.5.30. Monitors shift manning, distribution of supervision, equipment requirements and makes necessary adjustments. Informs the squadron commander of imbalances between authorizations and number of personnel assigned or between authorized and assigned skill levels or grades.

2.5.38. Ensures reparable parts are processed through repair channels, including proper management of warranted parts (TO 00-20-3 and AFMAN 64-110, *Manual for Weapons Systems Warranties*).

2.5.38.1. (Added) Ensures compliance with standard Air Force, PACAF and Department of Defense supply procedures, to include repair determinations, condemnations, turn-ins, and reutilization of assets.

2.5.40. Also ensures reporting per TO 00-5-1, with consideration given to any component that causes an aircraft to ground abort, air abort, or declare an in-flight emergency.

2.5.57. (Added) Provides guidance to subordinate supervisors for work force management.

2.5.58. (Added) Oversees management of the squadron's maintenance manpower (may appoint an alternate). Specific actions include:

2.5.58.1. (Added) Ensures the CAMS personnel subsystem is current and accurate. The database is not changed until approved ACR or personnel actions are received.

2.5.58.2. (Added) Verifies the accuracy of duty AFSC and position number on personnel actions; maintains a suspense file for personnel actions and verifies that approved actions have been correctly entered into the personnel data subsystem.

2.5.58.3. (Added) Coordinates on changes/additions to the squadron in-/out-processing checklist when a group in-/out-processing checklist has not been developed.

2.5.58.4. (Added) Provides programs section with information copies of all correspondence with Mission Support Squadron that could impact the maintenance manning strength, e.g., gain and loss notices, assignment cancellations, separations and retirements, duty assignment changes, overlaps eliminations, etc. Provides correspondence to wing manning managers when requested.

2.5.59. (Added) Reviews OPLANs, ensuring all personnel understand the unit's tasking and are provided the resources to support plans.

2.5.60. (Added) After coordinating with the appropriate support squadron, helps prepare and execute all OPLANs, including support plans and checklists for contingency taskings involving the squadron. Ensures support equipment enclosed in WRM or deployment kits is inspected according to TO 00-20-11, *Aerospace Vehicle/Equipment Inspection and Documentation.*

2.5.61. (Added) Monitors supply support; identifies problems to the SQ/CC.

2.5.62. (Added) Authorizes personnel to verify urgency of need (UND) J and A requirements.

2.5.63. (Added) Approves primary AFSC personnel for SCR tasks.

2.5.64. (Added) Ensures the squadron training program is effective.

2.5.65. (Added) Ensures squadron aircraft maintenance function is capable of meeting its deployment tasking.

2.5.66. (Added) Coordinates with MOC to establish emergency action procedures (including severe weather), and ensure they are adhered to with regard to movement of aircraft, support equipment, and personnel evacuation.

2.5.67. (Added) Ensures the SQ/CC is aware of any critical shortages of people, aircraft, equipment, or components that might affect the units sortie production capability.

2.5.68. (Added) Reviews and consolidates monthly maintenance plan inputs and forwards to MOF PS&D for publication.

2.5.69. (Added) Participates in reviews of base-level repair capability IAW TO 00-20-3, and 00-25-195, and AFI 21-123.

2.5.70. (Added) Evaluates the causes and takes corrective action if standard duty hours are consistently exceeded.

2.5.71. (Added) In coordination with QA, ensures a viable Maintenance Standardization and Evaluation Program is implemented as outlined in Chapter 10.

2.5.72. (Added) Ensures augmentees are trained to assist with scheduling functions if sufficient 2R1X1 personnel are not available.

2.6.17. Formulates, review, and conduct after-the-fact evaluations of monthly, weekly, and daily maintenance plans. Submits inputs through the maintenance supervisor to MOF PS&D.

2.6.39. Bench sets and mock-ups are not used for completion of maintenance actions on aircraft.

2.7.27. (Added) Evaluates production and equipment performance to identify deficient areas and initiates corrective action.

2.8.3. Ensures the resources are available to meet planned objectives.

2.9. Tracks personnel, determines aircraft status and coordinates with the pro super and MOC to keep production flowing smoothly.

2.9.3. Relays fuel and munitions configuration information.

2.9.4. Obtains a JCN and notifies the support section.

2.9.20. Delivers “Red Cap” samples immediately to the OAP laboratory.

3.3.16. (Added) Ensures personnel are qualified to support concurrent servicing operations, dual-loading operations, and hot refueling programs.

3.3.17. (Added) Responsible for developing procedures to track fuel leaks by MDS/serial number in CAMS (large aircraft i.e., bombers, tankers, etc.). **NOTE:** Units may use separate AFTO Form 781K specifically for these discrepancies and maintain them in the active aircraft forms binder.

3.8. When the sortie is terminated at a base other than home station, multiple sorties should be debriefed during a single debriefing session.

3.8.4.1. (Added) To ensure discrepancies are recorded in maintenance forms using the proper symbols, units will develop a "Red X" criteria check sheet and keep it in each debrief section. The check sheet identifies minimum discrepancies requiring mandatory entry as a "Red X" condition. Wings will have a standardized "Red X" criteria check sheet for each AMU with the same MDS.

3.8.4.2. (Added) Document all aborts or IFEs in CAMS. If CAMS is down or unavailable use manual tracking. Manual reports/records will be maintained for one year following the abort/incident or once data is inputted to CAMS.

3.8.6. During "CAMS down" periods or when CAMS will not be available, such as when deployed, units will use blank printouts of CAMS debriefing screens or locally devised products to ensure accurate debriefing information is obtained. Input the collected data into CAMS at the earliest opportunity.

3.8.7.1. (Added) Print a copy or disk back-up of the automated debriefing sortie recap for each sortie, including a separate printout for each leg of cross-country missions, and file in the aircraft record. During, or immediately upon completion of cross-country sortie debriefing, contact MOC to obtain correct sortie sequence numbers when not available through CAMS.

3.8.9.2. (Added) For the purpose of recording repeat/recur discrepancies, a corrective action occurs when parts are removed, replaced, repaired, or when any form of troubleshooting or adjustment is completed (e.g., cleaning of electrical contacts, resetting of connectors, recycling power, etc.).

3.8.9.3. (Added) A discrepancy requesting an in-flight operational check of a maintenance action will not be counted as a repeat or recur if a sortie was flown, and the discrepancy operationally checked was not corrected by the maintenance action. Any subsequent sortie that the discrepancy returns on will follow repeat/recur guidelines regardless if a write-up for an in-flight operational check is requested.

3.8.16.1.1. (Added) The debriefing section retains the AF Form 15 (or AF Form 315), plus a copy of the DD Form 1898 or AF Form 1994 for routing to the RDCO or the Invoice Control Officer (ICO) IAW AFI 23-202.

3.8.16.3. (Added) Aircraft scheduled to land and receive fuel and services at DoD or non-DoD installations will carry the AF Form 664, Aircraft Fuels Documentation Log, and AF Form 15, United States Air Force Invoice, in the AFTO Form 781-series binder. Aircrews ensure the forms are completed according to AFI 23-202, and returned to the home station.

3.8.16.4. (Added) The AVCARD is the primary means of obtaining non-DoD fuel at commercial locations. AVCARD should be used whenever possible but in those cases where AVCARD is not accepted, use AF Form 315. The DD Form 1898, AvFuels Into-Plane Sales Slip, or the AF Form 1994, Fuels Issue/ De-fuel Document, (or the new International Fuels Form) will be imprinted with the aircraft DD Form 1896, Jet Fuel Identiplate (aircraft credit card), and a copy returned to home station.

3.8.16.4.1. (Added) When aircraft receive fuel or services at a commercial facility, the pilot collects the customer copy of AF Form 315, United States Air Force AvFuels Invoice. NOTE: Pilots should not purchase fuel from another commercial vendor at a facility when a DoD "Into-Plane Contract" is in effect (refer to AFI 23-202). This could result in penalties to DoD.

3.8.16.4.2. (Added) The AF Form 15 (or AF Form 315, as appropriate), AF Form 664, and AF Form 1994 are annotated and returned with the aircraft forms. Consult with the wing Refueling Documents Control Officer (RDCO) to ensure all procedures are followed, and the correct forms are used.

3.8.16.5. (Added) If an AF Form 15 is not returned, a copy of the AFTO Form 781H is provided to the RDCO/ICO. If copies of the AFTO Form 781H cannot be obtained, the debrief section transcribes the information contained in Blocks 1, 3, 4, 5, 6 and the refuel/defuel information contained in the applicable line of Block 16 to a separate AFTO Form 781H. The debriefer prints his or her name in Block 17 and enters the statement, "This is a certified true copy", in red across the top of the form. All fuels servicing documents are ultimately routed to the base Fuels Management Office by RDCO/ICOs. Cover procedures for accumulating and routing fuels documents in the unit’s debriefing procedures.

3.8.16.6. (Added) During squadron deployments, the deployed maintenance supervision reports fuel grade and quantity of non-DoD fuels issued (or defueled) to the home station debrief section by message if aircraft have not returned to the home station by the 6th day of the following month. Report information from AFTO Form 781H, Blocks 1, 3, 4, 5, 6, 16, and 17. All refuel accounting documents will be collected during the off-station period and turned into debriefing section (or the ICO) upon re-deployment.

3.8.17. (Added) B-1B procedures: Debriefing personnel download the CITS data transfer cartridge (DTC) into the CITS Deployable Diagnostics System (CDDS) for each sortie and create a CAMS work center event for the CMCs in the New CAMS Jobs from Sortie Report into CAMS. Related CMCs may be grouped together in the same work center event.

3.8.17.1. (Added) Debriefing personnel enter the CAMS work center event into the CDDS. When the CAMS event is closed, debriefing personnel close that event in CDDS using the following codes as appropriate: use A for Adjust (adjustment, bleed, replacement of minor parts); C for CND (could not duplicate); E for Equipment (associated equipment malfunction); M for Maintenance (maintenance induced); R for Repaired (aircraft repaired); S for S/W RLD (reloaded software); X for Mom Fail (system reported momentary failure); Z Canceled (job was canceled in CAMS).

3.9.2. DCCs will attend a formal DCC course no later than 3 months after assignment as a DCC. ADCC will attend the formal DCC course within the first 9 months of assignment as ADCC. The MXG/CC may waive the rank, MDS experience, and training requirements in writing. Limit waivers to only those personnel required to fill DCC positions. Assign at least one ADCC per aircraft. When available manning permits, assign a second ADCC per aircraft. The intent of having a local DCC course is to instill the merits, requirements, and significance of being a DCC. DCC courses should not be technically oriented for the assigned airframe and should be no longer than 3-5 duty days long. In addition to a briefing by the WG/CC or MXG/CC, the DCC courses will include local policies, local operating instructions, procedures peculiar to the base, local flying hour program, wing mission, Pro Super requirements/expectations,

records check procedures, recent QA trends, JOAP documentation procedures, and AFTO Form 781 documentation. The DCC course may be combined with other training. For the 15 ABW, Hickam AFB, HI, the DCC course may be conducted within the individual work center IAW para 5.4.

3.9.2.3. Annotate the DCC and ADCC names and ranks on the cover (AFTO Form 781F) of the forms binder according to the wings standardized marking scheme in the master forms binder.

3.9.2.9.1. (Added) Consider assigning a dedicated dispatchable toolbox to each DCC (i.e., one per aircraft). If assigned, this toolbox will be the responsibility of the DCC, and only the DCC/ADCC should be allowed to sign for and use the toolbox dedicated to their aircraft.

3.9.2.13. Assist the dock chief with completing the required documents review and validation at the end of the inspection.

3.9.2.14. Also responsible for maintenance, safety, and protective equipment (MSPE). Inventories this equipment on aircraft returning from deployments.

3.9.2.19. (Added) Perform scheduled document reviews using CAMS and automated aircraft forms.

3.9.2.20. (Added) Ensure that external fuel tanks and conformal fuel tanks (CFT) and weapons bay fuel tanks (WBT) removed from aircraft for maintenance or storage have appropriate condition tags, protective covers and stored in the designated storage area.

3.9.2.21. (Added) Ensure external fuel tanks, or CFTs requiring repair have discrepancies entered into CAMS and are processed through Fuel System Section for repair.

3.9.2.22. (Added) Take oil samples and complete appropriate documentation.

3.9.2.23. (Added) Units with a DCC program will provide a snapshot of the following quarterly (during January, April, July, and October) to HQ PACAF. Contact HQ PACAF/LGMFB for the Excel template to use.

3.9.2.23.1. (Added) Identify wing, squadron, MDS, name and telephone number of unit POC.)

3.9.2.23.2. (Added) Identify number of 2A3X3, 2A5X1, and/or 2A5X2 personnel authorized by skill level.

3.9.2.23.3. (Added) Identify number of 2A3X3, 2A5X1, and/or 2A5X2 personnel assigned by skill level.

3.9.2.23.4. (Added) Identify name, rank, and AFSC of each DCC.

3.9.2.23.5. (Added) Identify aircraft tail number assigned for each DCC.

3.9.2.23.6. (Added) Identify years of experience on assigned MDS for each DCC.

3.9.2.23.7. (Added) Identify waiver required for grade (yes/no) for each DCC.

3.9.2.23.8. (Added) Identify waiver required for experience (yes/no) for each DCC.

3.9.2.23.9. (Added) Identify completed DCC course (yes/no).

3.9.2.23.10. (Added) Identify cross flow (yes/no) for each DCC. Include what MDS individual transferred from in remarks section.

3.9.2.23.11. (Added) Identify any breaks in aircraft maintenance experience and for how long (e.g. recruiter duty, other special duty, or AFSC retraining). Explain in remarks section.

3.9.2.23.12. (Added) Identify if SEI has been awarded for the currently assigned MDS. If not, explain in remarks section.

3.9.2.23.13. (Added) Identify duty/position of all crew chief's not working/assigned to flight line related duties. Typical non-flight line related duties include dorm manager, resource advisor, vehicle NCO, etc. Please do not include phase, QA, support, wheel/tire type duties in this category.

3.9.2.24. (Added) The overall PACAF program manager for the DCC program is HQ PACAF/LGMFB at extension 449-3577.

3.9.4. (Added) The Section Chief ensures records checks are completed using CAMS and automated aircraft forms IAW Chapter 7.

3.9.5. (Added) The Section Chief review CAMS 380 screen on all assigned aircraft daily.

3.10. Refer to Chapter 14 for additional requirements and guidance.

3.10.1.5. (Added) Works with functional managers for shared AFSCs with MXS and other squadrons.

3.11.1.4. Ensures the minimum required load crews indicated on the UCML are trained and certified to perform the mission (within the ARC, UCML minimums are determined by PACAF). Maintains load crew integrity during training and evaluations to the maximum extent possible. Ensures all load crews are trained to perform aircraft functional checks.

3.15.2. Use bench stock display boards or other visual aids to readily identify frequently used expendable items. Mount marked unserviceable assets, whenever possible, on display boards.

3.15.5. Units will develop, implement, and maintain at each workplace, a written hazard communication program. The program will describe criteria for labels and other forms of warning, Material Safety Data Sheets (MSDSs), and employee information and training see guidance in AFI 91-301 and Occupational Safety and Health Administration (OSHA) Hazard Communication Standard 1910.10200.

3.15.6.3. (Added) Consolidates section inputs for items requiring functional check and operational programming or calibration. Submit the listing to the TMDE Flight. Requirements and procedures are found in TO 00-20-3.

3.15.7. (Added) Manages the squadron land mobile radio (LMR) program.

3.15.8. (Added) Appoints managers for assigned equipment items.

3.18. (Added) Deferred Discrepancies. Timely accomplishment of deferred maintenance is the responsibility of the applicable AMU and/or MXS Flights. Deferred discrepancies are uncorrected discrepancies that do not create a NMC or PMC status. Load all deferred discrepancies into CAMS as soon as possible. Discrepancies are considered deferred as soon as they are discovered and the decision is made to defer them. Discrepancies deferred due to non-availability of parts are promptly loaded to CAMS when backordered through supply. The decentralized supply support/material control section enters supply data against deferred discrepancies and notifies the owning AMU PS&D and aircraft flight once parts are received. Discrepancies will not remain in "unscheduled" status for more than 1 workday from the date of discovery. Discrepancies with a scheduled start date and time greater than 5 days after the date of discovery are reportable deferred discrepancies. Discrepancies scheduled but not accomplished on the date scheduled are counted and reported in the deferred discrepancy rate. AWP discrepancies with a valid off-base requisition are reportable deferred discrepancies. TCTOs, TCIs, SIs, and OTIs in deferred status are not reportable deferred discrepancies.

3.18.1. (Added) Equipment discrepancy files, for equipment other than aircraft, may be decentralized to the proper shop.

3.18.2. (Added) The deferred discrepancy file, although centralized in the computer, is still considered as two separate and distinct files: one consisting of discrepancies AWP and the other consisting of discrepancies AWM. The responsibility for maintaining AWM discrepancies in CAMS lies with the technician who makes the inputs. The MS will develop procedures for reviewing the deferred discrepancy file and identifying any problem areas requiring resolution. Constant monitoring of CAMS 380 screen is required to ensure scheduled work is deferred again if not completed. The AWP file is maintained by decentralized supply support/materiel control.

3.18.3. (Added) Discrepancies deferred for parts:

3.18.3.1. (Added) Decentralized supply support/materiel control promptly loads the discrepancy and supply data into CAMS for aircraft discrepancies, which cannot be corrected due to backordered parts. Units using the SBSS module of CAMS follow procedures outlined in AFCSM 21-579, Vol 2 and PACAF Instructions.

3.18.3.2. (Added) The decentralized supply support/materiel control tells the production superintendent, expediter, and MOC when MICAP parts are received.

3.18.3.3. (Added) Items picked up from the TNB or issued from base supply, but are not installed, will be returned to the TNB by the end of the duty day, with a DD Form 1348-1.

3.18.3.4. (Added) Develop local procedures governing control of parts for Contractor Logistics Supported (CLS) aircraft and reconnaissance aircraft (if assigned) not supported by CAMS.

3.19. (Added) Dispatch Section. May be formed using existing manpower to track the duty location and strength of the squadron’s maintenance work force. This individual will maintain a liaison with flight chief, section chiefs, expediters, and production superintendents. The dispatcher will have a radio, a dedicated phone line, a listing of squadron personnel and duty phone numbers, and will understand the unit maintenance and flying schedules. Dispatchers will remain qualified in their AFSC and meet all other training requirements. Dispatch and debrief may be combined. The maintenance supervision will further define the dispatcher's duties and period of assignment. Dispatchers will not be assigned for longer than 1 year.

4.3.3. The listing includes work unit code, nomenclature, and step within the task the IPI is required. Document IPIs IAW instructions outlined in Chapter 7.

4.3.3.1. (Added) IPI documentation in CAMS is not required for off-equipment engine work. IPIs must be documented in the engine work folder.

4.3.9. Ensures the CDDAR program is managed. When CDDAR duties are accomplished by the host base for units on other MAJCOM bases, CDDAR responsibilities are clearly defined in the host-tenant support agreement and specific CDDAR support plans. Also ensures CDDAR responsibilities are covered at deployed locations.

4.3.19. (Added) Establish procedures for safe gear handle movement (B-1, B-2, B-52, C-9, 135 series, C-130, E-3, E-4B, U-2)

4.3.19.1. (Added) Ensures all personnel who are dispatched for any task requiring landing gear handle movement are listed on the special certification roster, by aircraft type and personnel duties; gear retraction supervisor the 7-level team supervisor, the gear handle operator.

4.3.19.2. (Added) Specific duties of the 7-level gear retraction supervisor are as follows:

4.3.19.2.1. (Added) During aircraft maintenance, ensures no movement of the gear handle from the full down position without 7-level authorization and verification that the handle needs to be moved for the task being performed.

4.3.19.2.2. (Added) Ensures all gear pins are installed.

4.3.20. (Added) Ensures CND and "Bad Actor" Programs and procedures to communicate information to each AMU are established.

4.6.1.4. (Added) Coordinates with the MXS maintenance supervision and MOC to obtain support from the base civil engineer, medical facility, and base fire department. Establishes procedures to inform the base fire department when open fuel tank repairs are in progress.

4.6.2.10. (Added) Maintains all AGE vented lead acid batteries and all aircraft lead acid and nickel cadmium (NICAD) batteries. AGE will maintain starved-electrolyte type batteries only.

4.6.2.11. (Added) Maintains, repairs, orders parts, and keeps historical records on the gaseous and cryogenic portion of aircraft oxygen/nitrogen gaseous and cryogenic servicing units.

4.6.2.11.1. (Added) Monitors and reports status of all aircraft liquid and gaseous servicing carts. This may also be done by the AGE Flight.

4.6.2.11.2. (Added) Using organizations are responsible to inspect gaseous and cryogenic servicing carts prior to use. Also, users are responsible to ensure the quantity of the LOX or LN2 in the aircraft servicing cart is not and does not fall below minimum levels, IAW applicable equipment technical orders, prior to and during servicing.

4.6.3.3. Section chief notifies MOC of any unsafe conditions.

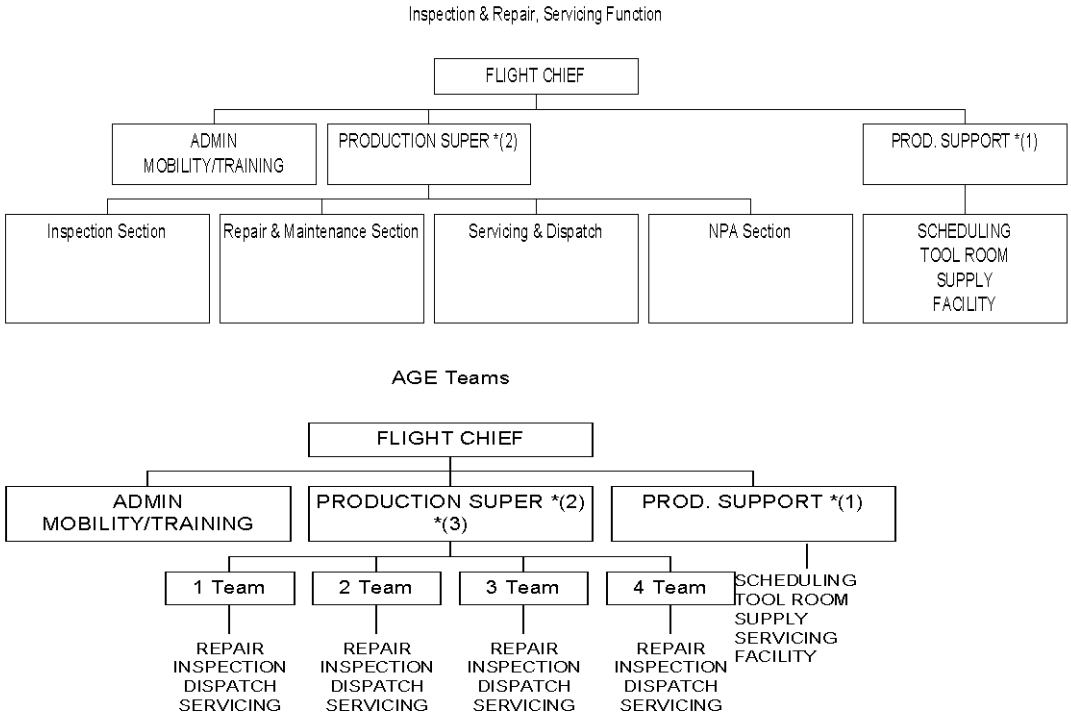
4.6.3.4. This training will not be limited to scheduled and unscheduled maintenance.

4.6.3.6.1. Additionally ensures internal controls are in place to effectively screen all time change data (i.e. SSgts and above clear suspenses). A copy of the snapshot must be provided to the AMU P&S, they maintain the database for their assigned aircraft.

4.6.3.10. (Added) Process removed items according to standard supply procedures.

4.7.1.5. The AGE flight is organized under one of the two organizations below: The NPA section may be aligned under the R&I section. (**Figure 4.1.(Added)**)

Figure 4.1.(Added) AGE Flight Organization.



NOTES:

1. When geographical situations dictate, the squadron may authorize two production supports.
2. When span of control warrants, the squadron may authorize two production superintendents.
3. A consolidated SPD can be established.

4.7.2.15. AGE Flights will report their overall in-commission rates once a quarter to PACAF OPRs.

4.7.2.19. (Added) Ensures AGE maintenance is performed IAW management instructions, TOs, and applicable directives.

4.7.2.20. (Added) Establishes an inspection program on assigned AGE.

4.7.2.21. (Added) Maintains Sections/Teams integrity for equipment and personnel.

4.7.2.22. (Added) Monitors assigned personnel skills, rank, and career status to balance management skill and technical proficiency in each Section or Team.

4.7.4. AGE Team. The Team organizational structure provides for centralized control (direction, policy, standards, enforcement, and production support), and decentralized execution. Under this concept, each Team is identified with sequenced numerical designator as designed by the flight chief. Each Team repairs, inspects, dispatches, and services assigned powered and non-powered AGE.

4.7.4.10. (Added) Supervises AGE tow vehicle drivers and ensures drivers respond to the needs of the AMU. AMU expediters normally transmit needs directly to the dedicated AGE driver.

4.7.4.11. (Added) Under the Team concept, AGE tow vehicles are under the control of each Team leader or may be consolidated and used to form a Servicing, Pickup, and Delivery function. When this is practiced, the drivers remain assigned to their respective Teams. Team-dedicated AGE drivers coordinate AGE movement with their respective AMU expediter. As a minimum, adequate AGE drivers must remain available to the flight line during aircraft launches.

4.7.5. Inform the AGE production scheduler of all equipment status changes and estimated time in commission (ETICs) as they occur. Under the Team concept, each Team has inspection and repair responsibility.

4.7.12. (Added) Non-powered AGE (NPA) Section. The NPA section performs scheduled and unscheduled maintenance on NPA and informs the AGE production scheduler of all equipment status changes and estimated time in commission (ETICs) as they occur. Under the Team concept, each Team has NPA responsibility. The NPA Section:

4.7.12.1. (Added) Performs maintenance beyond the capability of the servicing function.

4.7.12.2. (Added) Performs TCTOs.

4.7.12.3. (Added) Validates all AGE NMCS and parts requests before placing items on order.

4.7.12.4. (Added) Prepares AGE and section equipment for storage or shipment.

4.7.12.5. (Added) Establishes a viable corrosion control program to include ensuring assigned AGE is inspected at minimum every two years by a 5-skill level or above Aircraft Structural Maintenance (ASM), AFSC 2A7X3 specialist (or equivalent civilian or contract personnel). This inspection guidance does not mandate painting. Painting will be scheduled and accomplished as required.

4.8.1. A 2R1X1 scheduler may be assigned if allocated by UMD.

4.8.3.7.1. (Added) Establish a Munitions Custody Account for dummy test rounds (if required) IAW AFI 21-201.

4.8.3.12.1. (Added) Acceptance inspection items that are returned to the LRS, requiring functional check or bench check prior to use, will be identified as requiring functional check or calibration every 3 years.

4.9.1.1. (Added) Organization of the Avionics Sections. Avionics sections are organized with a section chief, production supervisors, repair monitors, team leaders, and repair team members. Duplicate or combine these positions and duties to achieve effective asset management and span of control. Under ideal circumstances, a section should have a single repair monitor, and one team leader for each repair area consisting of 3 to 5 team members. The section chiefs have overall responsibility for the effective management of their assigned resources. In assisting the section chief, the following mid-level managers have delegated responsibilities:

Figure 4.2.(Added) Avionics Flight Organization.

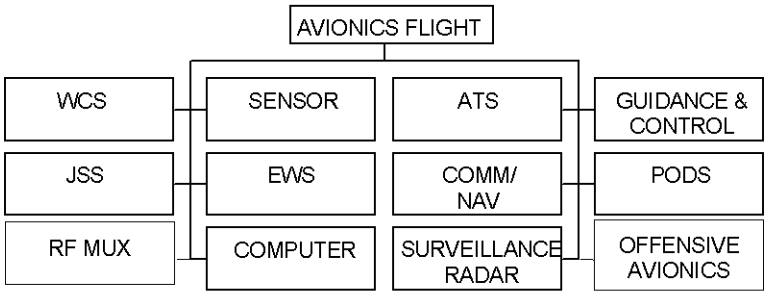
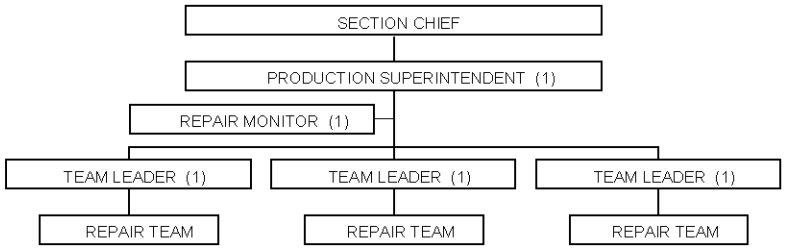


Figure 4.3.(Added) Avionics Section Organization Off-Equipment.



NOTE: (1) Duties may be combined.

4.9.14.3. (Added) Maintains liaison with operations and reconnaissance squadrons and specialist sections to identify and correct sensor system problems. Maintains liaison with operations squadrons and specialists sections to facilitate/optimize sensor systems maintenance.

4.9.14.3.1. (Added) As workload permits, may assist the flight line in troubleshooting and pod LRU replacement.

4.9.15.5.1. (Added) Units will report to PACAF/LGM all cann pods not returned to service when PMI is due. Information will include current status, any parts or maintenance issues, and estimated return to service date.

4.9.15.11. (Added) When assigned on-equipment maintenance responsibilities the section develops a program to verify operation of installed RWR systems using the guidelines of Chapter 18.

4.9.22.2.1. (Added) Also includes Cockpit Television Sensor (CTVS).

4.10.3.13. (Added) Determines which structural parts or sections must be removed from damaged AGE and aircraft for repair.

4.10.3.14. (Added) Ensures section personnel are scheduled for occupational medical examinations IAW AFOSH STD 48-101, *Aerospace Medical Operations* as specified in bioenvironmental surveys.

4.10.5.13. (Added) Evaluates the extent of damage and wear to material and equipment IAW technical data, and decides whether to repair or replace.

4.11.3.4. Performs CDDAR responsibilities IAW Chapter 18.32. (Added), when assigned.

4.11.3.5. (Added) Develops procedures to the instruction and this supplement that include specific R&R tasks.

4.11.5. **NOTE:** Units that perform ISO inspections at locations other than assigned, will request a waiver from PACAF.

4.11.5.3. Specialists may be assigned to this section. If specialists are not assigned, the Inspection Section supervisors coordinate with aircraft, specialists, and weapons sections to ensure support is available to meet inspection requirements.

4.11.5.4. The dock chief develops and uses CAMS job flow packages IAW the applicable -6 technical orders to aid in managing the progress of the inspection (MOF PS&D loads job flow packages to CAMS).

4.11.5.4.1. (Added) Caution must be used to ensure that an unaccomplished item number is reentered on Work Card and Item Number columns if not completed with the rest of that work card. For fix step discrepancies, discrepancies discovered during the technical inspection (TI), TCTOs, TCI, and other requirements enter the appropriate symbol in the item column to denote the seriousness of the discrepancy. If desired, enter a brief discrepancy note in the work card column.

4.11.5.4.2. (Added) For uncorrected discrepancies, which are transferred to the AFTO Forms 781A or 781K, enter the "letters" or "abbreviation" CF (carried forward) in the employee number column.

4.11.5.4.3. (Added) The inspection supervisor's initials in the smaller portion of the employee number column indicate the work is completed and/or inspected. Supervisor's initials for CF entries indicate the delayed discrepancy is assigned a JCN/event number and transcribed to the applicable aircraft forms.

4.11.5.14. (Added) Maintains inspection team integrity and stability to ensure people are proficient on the aircraft.

4.11.7. The primary source of specialist support for transient aircraft should be the AMUs.

4.11.7.3. Procedures for fuels billing and accounting are in AFI 23-202.

4.11.7.9. Units also report to PACAF Air Mobility Operations Control Center (AMOCC.)

4.11.7.15. (Added) Ensure aircraft intake inspections are performed on transient aircraft IAW para **18.23.2.13.** of this instruction.

4.13.2.22. AMU production superintendent coordinates with the Propulsion Flight chief prior to scheduled or unscheduled engine removal changes.

4.13.2.24. (Added) Provides technical guidance to achieve and maintain quality propulsion systems to support the wing mission.

4.13.2.25. (Added) Ensures qualified personnel are available for engine test runs.

4.13.2.26. (Added) Provides input to the Group Commander's Engine Trending & Diagnostic (ET&D) program.

4.13.2.27. (Added) Ensures an equitable grade, skill level, and experience balance of AFSC 2A6X1X personnel between AMUs. Ensures personnel in the group are rotated, as necessary, to enhance individual experience and knowledge.

4.13.2.28. (Added) Ensures all engine back-shop expenditures are provided to PACAF/LGMFE within 5 days after an engine has been made ready for installation. If 5 day reporting period cannot be met, contact PACAF/LGMFE via message/e-mail before deadline expires.

4.13.5. The section may be organized using the dock or crew concept.

4.13.5.4. Also includes use of CAMS products.

4.13.5.7. Units with F119-PW-100 engines will use the Integrated Maintenance Information System (IMIS). Engine work folder information not contained in IMIS will be established and maintained IAW this instruction.

4.13.5.7.3. Also, the total operating time of old and new components.

4.13.5.7.5. Units possessing the F119-PW-100 engine will use IMIS to document IPIs.

4.13.5.7.8. Prior to engine start on the Test Cell, the run supervisor will ensure the pretest procedures listed in applicable T.O.s, e.g. TO 33D4-6-645-1 (T-10/11) and TO 33D4-6-692-1 (T-9) are complied with. Test cell personnel will complete the following document and the engine run supervisor will ensure all worksheet items are complied with and documented prior to engine start. At a minimum, the document will include the following headings: Engine TMS, Engine Serial Number, EOT/cycles, JCN, Remarks, Pre-run Emergency Briefing Accomplished with run supervisors name, signature and date section, Area Inspection with technicians name, employee number and date accomplished sections. **NOTE:** At a minimum, Area Inspection Section will include: Inlet FOD/FO; Exhaust FOD/FO; Engine Exterior for FO; General Engine Serviceability; Test Stand/Thrust Bed/Test Equipment for FO and loose or missing hardware; CTK Inventory C/W (ensure all CTK and test equipment is accounted for and is in its proper storage space after every maintenance action and before each engine start); Engine Servicing Check; all preliminary engine installation and run requirements C/W; serviceable fire extinguisher on hand; check all door tracks for obstructions, debris and dirt; check air inlet baffles and screens for rivet security, obstructions, debris and dirt; primary inlet plenum for FO (T-9 only); primary splitters for FO (T-9 only); check test bay for cleanliness and check augmentor (exhaust tube) for dirt and damage; visually inspect engine and engine components for loose hardware, debris and tools; ensure the runbay is washed down (weather/EPA permitting) and free of all FO before engine start; thoroughly inspect the engine bellmouth for serviceability (e.g. tears, rips, etc) and deterioration before installation and ensure all bellmouth electrical leads are secure. Units may add additional inspection areas/steps as appropriate. Each area section will have the performing technician's employee number and date accomplished annotated.

4.13.5.7.9. Post run SEM/EDX analysis C/W (if applicable).

4.13.6.1.2.1. (Added) Trains AMU personnel on NSS operating procedures.

4.13.13. (Added) Engine Removal Program. Scheduled and unscheduled engine removals are important considerations in balancing propulsion flight’s workload with their production capability. The flight chief works closely with EM section to program engine removals for the weekly and monthly maintenance plans. The flight chief and the EM section develop a 6-month plan to smooth surges in the engine maintenance workload. Use automated methods to develop the 6-month plan and include scheduled engine removals for TCIs, PEs, and TCTOs. Include a factor for projected unscheduled removal.

4.13.14. (Added) Units Supported By Two-level Maintenance/ERRC.

4.13.14.1. (Added) Further guidance on the PACAF regional repair facilities can be found in PACAFI 21-104. Propulsion flights supported by two-level maintenance/regional repair centers are authorized to

perform the retained tasks outlined in PACAFI 21-104 if the required support equipment and expertise is authorized and on-hand. Repairs above and beyond those listed in PACAFI 21-104 require approval from HQ PACAF/LGM. All other engines are returned to the two-level maintenance/regional repair facility. (**Table 4.4.(Added)**)

Table 4.4.(Added) Two-Level Maintenance Retained Tasks.

TF33 Engine	**T56 Engine**
R&R Front Accessory Case	R&R and or Repair Turbine Modules
R&R #1 Bearing/Carbon Seal/Sump Area	R&R and or Repair Reduction Gearbox
R&R Inlet Guide Vane Case	R&R Torquemeter
R&R #1/#2 Fan Blades/Case	R&R Accessory Drive
R&R Turbine Exhaust Case	Propeller Repair
R&R Accessory Gearbox	
R&R 1st Stage Air Flow Ducts	
R&R #4 Turbine Wheel/Air Seal	
F404 Engine	**F118-100 Engine**
Accomplish I/O level TCD's Time Compliance Directive	R&R #1 Bearing/ /Sump Components
	R&R Front Frame
	R&R Fan Stator Case
R&R Fan Module and Stage 1 Fan Blades	R&R Fan IGV Flap
R&R Accessory Gearbox assembly	R&R Fan Blade and Stator Vane
R&R External engine components	R&R Gear Box, Wear Sleeve and Radial Drive Shaft
R&R Upper/Lower Compressor Bypass Duct	
R&R Upper Fan and Upper Compressor Case	R&R Aft Fairing and Center Body
R&R Front Frame Assembly	R&R PTO Coupling and carbon Seal
R&R Fuel Nozzles	R&R Fuel Manifold/Nozzle R&R Splitter Panels
R&R High Pressure Compressor Blades	
R&R Exhaust Duct Mixer	R&R Compressor Blades
	R&R Turbine Frame

TF34/ F103/F108	**F101 Engine**
Retain all organizational level maintenance	R&R Accessory Gearbox
	R&R Augmentor Assembly
	R&R Compressor Blades
T700	R&R Exhaust Nozzle Assembly
Retain all organizational level maintenance	R&R Fan Blades
	R&R Fan Stator Assembly
	R&R LPT Blades (Stage 2 Only)
	R&R Turbine Frame Assembly
	R&R VSV Actuator

4.13.15. (Added) Spare Engine Status. The section chiefs track the status of ready spare engines using a visual display or automated product showing: serial number; configuration (type and position, if applicable); time remaining until next scheduled engine removal, overhaul or reconditioning, preservation date, type accomplished, re-preservation due date, and remarks.

4.14.3.2.7. (Added) Review and track technical order improvement reports and DRs for compliance (TOs 00-5-1 and 00-35D-54).

4.14.5.11. (Added) Recommends CANN action in accordance TO 00-20-2 and this instruction.

4.14.5.12. (Added) Notifies the OWC of TMDE status change to awaiting parts and backorder/delivery status of parts on order.

4.14.5.13. (Added) Monitors and controls AWP TMDE using supply-generated and internally generated reports. Stores parts received for AWP items with the end item. Attaches a copy of source document of outstanding requisitions with AWP TMDE.

4.14.5.14. (Added) Maintains records and source documents for repair parts used in equipment belonging to reimbursable work centers. Submits monthly reports to the TMDE flight chief to facilitate processing of requests for reimbursement. Records are not necessary if the reimbursable unit's supply account is used for purchasing their own repair parts.

4.16. (Added) Squadron Deployment. The squadron deployment function is the focal point for deployment planning and execution. Ensures the unit is capable of deploying in response to wing taskings. Works with logistics plans and unit supervisors to prepare for execution of plans. Initiates squadron deployment planning and provides inputs to plans. When evaluating taskings, the Unit Deployment Manager considers other plans that task the unit, personnel/equipment requirements, and LIMFACs. Performs unit duties and responsibilities in AFI 10-403, *Deployment Planning,* Chapter 4, Deployment Execution Unit Cargo Preparation Requirements and Chapter 5, Deployment Execution Unit Personnel Preparation Requirements.

5.3. Command training instructions (ACCI 36-2251, PACAFI 36-2202, USAFEI 36-2201).

5.4.2.2.1. MTF is administratively responsible for training and reporting on all unit training managers (UTMs) assigned to the MXG. To provide a standard yet flexible (fit squadron unique mission) maintenance training program, UTMs will be physically located (work) in the units they support to ensure they

learn that unit's mission and training requirements. MTFs supervision will appoint, in writing, each UTM to one or more units, as manning dictates, to manage unit commanders training programs. For further guidance, refer to Chapter 3 of the PACAF Sup 1 (Command Aircraft Maintenance Training Instruction) to AFI 36-2232.

5.4.2.7. Consolidate and coordinate training requests conducted by Air Force Engineering and Technical Services (AFETS)/Contractor Engineering and Technical Services (CETS) as listed in AFI 21-110, *Engineering and Technical Services*.

5.4.2.8. All AFSC and CDC waiver packages, reactivations, and retraining requests based on CDC failure will be coordinated through the MTF for concurrence/recommendation before processing to Base Training Office for processing.

5.4.2.15. Ensure MDS specific fire extinguisher and hazard communication (HAZCOM) training program is established for all maintenance personnel performing on-equipment maintenance. Selected items such as supply procedures, hazardous material (HAZMAT), waste disposal procedures, will be taught in the work centers to ensure unique requirements are addressed and documented.

5.5.1.3.1. (Added) SRAN managers maintain and update IESS each duty day at 0900 local time.

5.5.1.7. Units utilizing the SBSS module of CAMS follow procedures in AFCSM 21-568 and AFCSM 21-579.

5.6. Additional supply guidance is provided in PACAF Supply Instructions and Chapter 8 of this instruction.

5.8.17. A Deficiency Analyst or MDSA will participate in the IREP to help identify and analyze problem areas.

5.8.20.8.11. Corrects aircraft utilization errors in CAMS as required.

5.8.20.12. The DIT will meet at least three days per week checking the previous duty days job data documentation to ensure a 100 percent check of CAMS data. So as long as units ensure 100 percent verification of data accuracy/error correction by exploiting automated/electronic processes at least 3 times per week, the intent of the DIT meetings are met. However, if the MDSA Chief feels the unit has a serious data accuracy problem he or she can mandate a formal meeting process until it is felt the problem is under control.

5.8.20.12.8. Where documentation rates suggest a problem, the Chief of Analysis will elevate the issue to the respective squadron and MXG/CC.

5.8.20.24. (Added) Command Analysis Functional Manager. The command functional manager monitors and controls analysis resources. All issues relating to maintenance data systems analysis, other than CAMS Database Management, should be directed to command functional manager. This includes working assignments of analysis personnel and allocations of AETC and MAJCOM formal schools quotas.

5.8.20.25. (Added) Command Database Manager. MAJCOMs are responsible for all issues relating to CAMS/REMIS system operation and systems interfacing with CAMS/REMIS. The command DBM provides technical advice to the units on problems beyond their expertise and evaluates DIREPs, C4 System Requirement Documents and suggestions for CAMS.

5.12. (Added) Software Analysis Section (B-1 and B-2 units). The software analysis section processes and analyzes B-1 Central Integrated Test System (CITS), CITS Deployable Diagnostics System (CDDS),

B-2 On-Board Test System (OBTS) or OBTS Ground Processor (OGP) data, as applicable, in order to provide timely and accurate information to aid the maintenance effort, identify software discrepancies to the appropriate OPRs, and identify trends to maintenance supervisors and assigned engineers. B-2 units address all hardware and software deficiencies/anomalies associated with aircraft diagnostics using the On Board Test System (OBTS), the Mission Data Entry Unit (MDEU), and the On Board Test System Ground Processor (OGP). A team of maintenance technicians compares data extracted from the MDEU, OGP, CAMS, and the OBTS paper tape to ensure accuracy and validity of the data in support of airframe availability. This section works hand-in-hand with maintenance analysis functions in order to identify trends in system performance.

5.12.1. (Added) Demonstrated knowledge and ability should be of primary importance in assigning personnel to this section; however, each flight line avionics AFSC should be represented. All assigned personnel should have performed in their AFSC within the last 3 years. Experience with computers is also desirable.

5.12.2. (Added) As a minimum, the responsibilities of this section are to:

5.12.2.1. (Added) Analyze and establish the accurate status of all reported CITS Maintenance Codes (CMCs)/Reference Designator Indicators (RDIs).

5.12.2.2. (Added) Identify to appropriate maintenance supervisors (and engineers, if assigned to the unit), adverse system/maintenance trends.

5.12.2.3. (Added) Identify CITS/CDDS/OBTS/OGP software deficiencies and submit DRs to the local QA function.

5.12.2.4. (Added) Assist maintenance technicians in identifying and reporting Ground Readiness Test (GRT) deficiencies.

5.12.2.5. (Added) Provide CITS/CDDS/OBTS/OGP information products, as required, to support the production effort.

5.12.2.6. (Added) Assist/train maintenance technicians to use CITS/OGP maintenance reports in troubleshooting malfunctions.

5.12.2.7. (Added) Maintain historical data (nine-track tapes or other magnetic media) for each assigned aircraft for a minimum of 2 years.

5.12.2.8. (Added) Analyze data-dependent maintenance codes to determine whether maintenance action is required. When required, initiate CAMS work center event (job control number) for maintenance codes determined by initial analysis to require maintenance action and notify applicable maintenance flight to enter discrepancy in AFTO Form 781A.

6.1.3. Maintains overall management and control of the CAMS location subsystem and aircraft status reporting (CAMS/REMIS corrections).

6.1.13. Ensures aircraft boards are conspicuously marked to show Hangar Queen status and include date of last flight, ETIC, and expected fly date.

6.1.22. (Added) Resolves support problems between activities and dispatches appropriate maintenance agencies to provide requested support.

6.2. Assign personnel to MOC for 24 months. The MXG/CC may waive this requirement on an individual basis.

6.2.4. (Added) The expediter keeps the weapons system coordinator informed of conditions affecting aircraft capability and applies the resources needed to meet the priorities. The weapons system coordinator:

6.2.4.1. (Added) Verifies and posts status information promptly when informed by the AMU production superintendent and/or expediter.

6.2.4.2. (Added) Must be familiar with support organizations, their operation and capability.

6.2.4.3. (Added) Coordinates maintenance schedules, actions and priority changes.

6.2.4.4. (Added) Resolves conflicts over priorities for refueling vehicles and refuel pits.

6.2.4.5. (Added) Dispatches maintenance squadron(s) specialists as requested or as pre-planned.

6.4.1. Fuel load and weapon configuration will be listed. Also included WUC and MICAP number in the discrepancy narrative.

6.4.2. Track Crew Ready, Crew Show, Engine Start, and Taxi.

6.5. MOC has the overall responsibility to ensure adequate communications are available and to manage the non-tactical radio net program.

6.5.5. (Added) The MOC publishes procedures for a local call sign system.

6.8.1. When a WS function is not authorized in the wing, contact the wing safety office for guidance. Refer to TO 00-20-1 for general management procedures for transient aircraft.

7.2.2. ADR will be accomplished every 14 days.

7.3.2. The following statement will be entered onto the original AFTO Form 95, "Automated history started this date".

7.7. Each specific TO or job guide containing the IPI will be listed on the IPI list.

7.7.1. If a task requires multiple IPIs and insufficient space is available in the original discrepancy, document the IPIs as separate discrepancies. Ensure the original discrepancy references the page and item numbers of the IPI entries. The individual authorized to clear the IPI will clear the IPI.

7.7.2.2. Document F119-PW-100 engine IPIs in IMIS.

7.8. (Added) **Aircraft Servicing Documentation.**

7.8.1. (Added) Hydraulic, oil, and nitrogen servicing will be documented in the aircraft forms as follows; each time servicing is performed an INFO/NOTE will be placed in the AFTO Form 781A stating what component was serviced with the servicing cart number. In addition, units will develop a local tracking sheet for hydraulic, oil, and nitrogen servicing carts that will include, as a minimum; the aircraft tail number, component serviced, date/time, and employee number (this tracking sheet will stay with the servicing cart). AGE Flight will maintain completed local tracking sheets for a minimum of 90 days.

8.1. In addition to the procedures outlined in this instruction and AFMAN 23-110-series manuals, units supporting reconnaissance aircraft, Compass Call Mission Systems and sensors refer to the applicable Logistics Support Plan (LSP) for additional guidance regarding specific supply procedures. PACAF units under COSO will follow the policies outlined in PACAFI 23-203.

8.2. Points of contact for IREP issues are HQ PACAF/LGMM, DSN 449-3545, and HQ PACAF/LGRW, 449-8125.

8.2.1.1. Review the following indicators during IREP meetings. Units without flying missions or assigned aircraft will report only applicable items.

8.2.1.1.1. (Added) Aircraft Mission Capable (MC) rate by MDS by month.

8.2.1.1.2. (Added) Aircraft Total Not Mission Capable Supply (TNMCS) rate by MDS by month.

8.2.1.1.3. (Added) Top five cannibalizations per MDS by quarter.

8.2.1.1.4. (Added) Top five bad actors per MDS by quarter.

8.2.1.1.5. (Added) Top five MICAP drivers per MDS by quarter.

8.2.1.1.6. (Added) COSO parts store issue effectiveness by MDS by month.

8.2.1.1.7. (Added) Wing 3-LM average repair cycle time by month.

8.2.1.1.8. (Added) AFREP turn-ins by month.

8.2.1.1.9. (Added) AFREP dollar savings by month.

8.2.1.1.10. (Added) Support NPA/supply status (3000/4000/t56 trailers, prop dollies, hardbacks, etc.)

8.2.1.1.11. (Added) Wing float by month.

8.2.1.1.12. (Added) Average AWP days by month.

8.2.1.1.13. (Added) Test station MC rate by month (primary aircraft support test stations such as, F-15E Automatic Electronic Warfare System, C-130 Comm/Nav/GAC, F-16 AIS, etc.

8.2.1.1.14. (Added) Test cell status (current status).

8.2.1.1.15. (Added) Test, Measurement & Diagnostic Equipment (TMDE)/PMEL days workable backlog by month. Note: For contract PMELs, government PMEL QA personnel will collect and provide the IREP data to the unit IREP OPR.

8.2.1.1.16. (Added) TMDE/PMEL average days in AWP status by month. Note: For contract PMELs, government PMEL QA personnel will collect and provide the IREP data to the unit IREP OPR.

8.2.1.1.17. (Added) DR status by month (number of submissions).

8.2.1.1.18. (Added) Current DR exhibits (60 days and 120 days awaiting disposition).

8.2.1.1.19. (Added) Phase throughput (scheduled number of days to complete phase).

8.2.1.1.20. (Added) Engine Flow Time broken up as follows.

8.2.1.1.20.1. (Added) In-Transit Days. Average number of days engines are in transit to/from Queen Bee/ Engine Regional Repair Center. N/A for units with repair capability. Formula: Total number of days In-Transit divided by total number of engines shipped during the month.

8.2.1.1.20.2. (Added) ENMCS Days. Average number of days engines are in Engine Not Mission Capable Supply (ENMCS) status. Formula: Total number of days ENMCS divided by total number of spare engines produced during the month.

8.2.1.1.20.3. (Added) AWM Days. Average number of days engines are in Awaiting Maintenance Status. Formula: Total number of days AWM divided by total number of spare engines produced during the month.

8.2.1.1.20.4. (Added) INW Days. Average number of days engines are in base/JEIM repair IAW TO 2-1-18, paras 4-3.1. and 2. This segment begins when work starts on the engine, and ends with the engine either being placed in serviceable status or returned to the depot for repair. The segment includes pre-maintenance test cell run, disassembly, inspection, removal/replacement of modules, component/part rework, reassembly, test cell, final build-up, preservation, and documentation activities. Formula: Total number of days INW divided by total number of spare engines produced during the month.

8.2.1.1.20.5. (Added) The following information and terms apply.

8.2.1.1.20.5.1. (Added) Standard: Base/JEIM standard maintenance pipeline time established in TO 2-1-18, Table 4 for the assigned engine type.

8.2.1.1.20.5.2. (Added) Produced: Total number of spare engines produced during the month.

8.2.1.1.20.5.3. (Added) Multiple TMS Wings: If your wing has multiple engine types then a separate metric will be established for each one.

8.2.1.1.20.5.4. (Added) If one particular engine skews data/portrays a spike that does not paint a true composite picture please ensure note page is annotated with particular drivers.

8.7.3. (Added) Repair Cycle Support Element will schedule and chair a monthly time change reconciliation meeting with AMU COSOs along with MOF PS&D, Engine management, and munitions scheduling time change monitors. The reconciliation will consist of 100 percent validation of existing due-outs and a complete physical inventory of all issued time change items.

8.8. The designation for AGE due out release items are Hold Bin.

8.17.1.7. (Added) Schedules and chairs a monthly TCTO kit reconciliation meeting with wing TCTO monitors.

9.8. Operators must receive flight line driver’s training on driving conditions and hazards inherent to the flight line environment prior to operating any vehicle or equipment operated like a vehicle (bomb lifts, club cars, gators, mules, golf carts, etc.) on the flight line, even though these equipment items do not require a driver’s permit or license.

10.1. The role of QA is to evaluate and assess personnel proficiency (including the quality and effectiveness of training programs), equipment and aircraft condition, and to manage specific programs that ultimately increase reliability and maintainability (R&M). QA responsibilities, when effectively implemented, contribute to the unit's readiness and have a positive effect on the mission. The QA function is responsible for the MSEP and all operational techniques and activities that are used to fulfill requirements for quality of maintenance.

10.2. QA authorizations are based on tasks described in the Air Force Manpower Standard (AFMS). Directing QA "ownership" of MXG/CC safety programs, environmental programs, AF quality programs, exercise evaluation team membership, etc. are a local commander option. While centralized control of these programs is desirable and often necessary, management of too many programs diminishes QA's ability to administer functions required by this chapter. Commanders should consider augmenting UMD-authorized QA personnel to fulfill obligations of locally imposed programs. QA will coordinate in all Technical Assistance requests involving agencies outside the wing. The key to a successful QA program is close coordination and open communication at the lowest level in all facets of aircraft maintenance.

10.2.3.10. (Added) IDEA program.

10.2.3.11. (Added) Deficiency Assessment.

10.2.3.12. (Added) Configuration Management Program.

10.2.3.13. (Added) The Air Force Repair Enhancement Program (AFREP).

10.2.13. (Added) Foreign object damage (FOD) prevention program IAW Chapter 18 of this instruction.

10.2.14. (Added) Dropped Object Prevention program (DOP) IAW Chapter 18 of this instruction.

10.2.15. (Added) Ensures implementation of the PIP through close coordination with the group PIP manager on all aspects of aircraft maintenance. These aspects include configuration management, deficiency reporting and assessment, and R&M program.

10.2.16. (Added) Ensures in-depth QA involvement regarding aircraft in Hangar Queen status.

10.2.16.1. (Added) Performs a final review of all AFTO Form 781-series initiated since the last flight prior to the first flight.

10.3.4. Reviews, at least annually. Review JST's which are either utilized on a routine basis or which contain major maintenance tasks annually. QA will determine, and MXG/CC will approve, which JSTs are utilized on a routine basis or contain major maintenance tasks.

10.3.12. Annually reviews ASIP.

10.3.17. Develops the wing's 100 percent key task and routine task listings, provides copy of MXG/CC approved lists to all affected organizations, ensures both lists are reviewed at least quarterly.

10.3.21. (Added) Ensures the MSEP is understood by maintenance activities at all levels within the group.

10.3.22. (Added) Coordinates with MXG/CC and maintenance supervision on areas to augment during exercises, generations, or contingencies.

10.3.23. (Added) Provides input to PIP working groups or equivalent forums where R&M issues are evaluated.

10.3.24. (Added) Ensures only technically qualified and motivated personnel, who have the necessary communicative and interpersonal skills, are assigned to QA.

10.3.25. (Added) Maintains an active oversight of the unit configuration management and modification control program for assigned aircraft and equipment.

10.3.26. (Added) Selects, in conjunction with the MS, qualified technicians to augment QA. Augmentees are kept to a minimum.

10.3.27. (Added) Provides support to operations squadron’s life support system QA program, as directed by the MXG/CC. Life support information is found in AFI 11-301.

10.3.28. (Added) Establishes the QA training and qualification program.

10.3.29. (Added) Coordinates with the MTF to review training course graduates according to PACAF training instruction.

10.3.30. (Added) Ensures the QA munitions inspectors are in the MSA during exercises, generations or contingencies.

10.3.31. (Added) Serves as the OPR for writing a wing supplement to this instruction. Stand-alone wing operating instructions will only be written when responsibilities cross into other functional groups outside of maintenance. (See paragraph 1.12.).

10.3.32. (Added) Monitors and updates quarterly a master personnel listing of "All Systems Red X", "All Systems IPI", and "Red X downgrade".

10.4.13. Perform semi-annual inspections.

10.4.14. (Added) Ensures the quality of maintenance training is evaluated according to PACAF training instruction.

10.4.15. (Added) Evaluates on-and off-equipment maintenance tasks, except those weapons loading tasks that require certification/qualification.

10.4.16. (Added) Ensures appropriate documentation is initiated for aircraft and equipment impoundments.

10.4.17. (Added) Conducts all initial QA EPEs and maintaining copies of EPEs on assigned inspectors and augmentees.

10.4.18. (Added) Administers the unit chafing awareness program.

10.4.19. (Added) Issues and control stamps using a local developed form or AF Form 1297.

10.4.20. (Added) Appoints a production stamp/die control monitor for maintenance.

10.4.21. (Added) Monitors, issues, and controls stamps/dies (excluding PMEL, munitions inspectors seal press/stamp) and maintains letters of appointment for inspectors.

10.4.22. (Added) Reviews and approves aircraft debriefing guides IAW paragraph **3.8.4.1. (Added)** of this instruction.

10.4.23. (Added) Reviews and approves Red X check sheets IAW paragraph **3.8.4.1. (Added)** of this instruction.

10.5.6. (Added) Performs inspections and evaluations as outlined in the group's evaluation and inspection plan.

10.5.7. (Added) Includes subjective comments in reports to allow supervisors to assess an individual or team’s degree of task proficiency.

10.5.8. (Added) Spot-check TOs, work cards, and checklists and code manuals during evaluations and inspections for currency and serviceability.

10.5.9. (Added) Reviewing aircraft and equipment performance data to determine trends and potential problems and coordinate with MOF MSA/DBM and involved work centers to investigate deficiencies.

10.5.10. (Added) Provide the chief inspector and QA Supervisor/Superintendent a brief summary of significant findings each week for inclusion in the weekly summary if used.

10.5.11. (Added) Dedicated Inspector. In an effort to enhance continuity and communication between QA and the group, utilize the dedicated inspector system to the maximum extent possible. Inspectors are appointed by the group QA Chief Inspector and aligned with the squadron. Large squadrons may have more than one dedicated inspector to ensure adequate coverage of all processes. The inspector serves as the primary advisor to the squadron. Dedicated inspectors conduct face-to-face debriefing with supervi-

sors to provide them with inspection and evaluation results. The inspector assists supervision to perform technical research, conduct on the job training for assessors as needed, prepare accident/incident reports, and other tasks necessary to ensure a quality product and seek continuous improvement. Inspectors provide inputs on the level of quality observed during the week. Dedicated inspectors may continue to perform other QA duties; however, their inspection activities focus on their assigned squadron.

10.6. The QA training program ensures that personnel are weapon-system qualified, trained on overall QA responsibilities, and that they maintain proficiency in their AFSC or area of responsibility. NOTE: 2W0XX and 2W2XX personnel are only required to complete Phase 1 of the AMQP. Refer to AFI 36-2201 and PACAF training instruction for additional training guidance.

10.6.2.1. QA augmentees require a semiannual EPE on a personnel evaluation or QVI.

10.6.4. QA inspectors and QA augmentees are not required to be certified welders to follow instructions found in TO 00-25-252.

10.6.7. (Added) Ensure the PIM, TCTO monitor, and TODO, if assigned, are familiar with the wing's TCTO management process. Coordinate for assistance from MOF PS&D in this area.

10.9.1. MXG/CC will develop a listing of functional areas requiring Activity Inspections (AI).

10.9.2. The MXG developed AI listing with assigned inspection dates will be published in the monthly maintenance plan.

10.9.5.16.17. (Added) Is scheduled/unscheduled maintenance accomplished IAW applicable directives?

10.9.5.16.18. (Added) Is the Dedicated Crew Chief program managed IAW applicable directives?

10.9.5.16.19. (Added) Are all safety measures in place and re-enforced by supervision?

10.9.5.16.20. (Added) Are IPIs conducted and managed IAW applicable directives?

10.9.5.16.21. (Added) Are Red Xs cleared IAW T.O. 00-20-1. Is there excessive use of waivering within the unit?

10.9.5.16.22. (Added) Does the unit follow prescribed impoundment procedures?

10.9.6. Units will maintain copies of applicable AI reports for two years.

10.9.8. PACAF MSET/LSETs are ungraded. There is no requirement to report results of MXG/CC directed follow-up inspections to HQ PACAF/LGMS.

10.10. QA identifies problem areas, and working with maintenance supervisors, attempts to determine likely causes through evaluations and inspections. If unit factors are eliminated and the problem continues, QA reports the deficiency to the appropriate agency.

10.10.1. PACAF MSEP is governed by AFI 21-101 and applicable PACAF instructions.

10.10.1.3.1. PACAF MSET will use AFIs, AFOSH, applicable technical data and other governing guidance in addition to checklists found in PACAFDIR 90-Series to evaluate units.

10.10.2. The MSEP will include locally developed evaluation and inspection plans to focus QA efforts. Methods for inspecting, evaluating, and rating technical proficiency, equipment condition, etc.

10.10.3.7. Include in the MSEP a 100 percent KTL, established by MXG/CC. The KTL will cover tasks that are complex and those affecting safety of flight. All maintenance actions and functions listed on the KTL require mandatory call-in to QA each time the maintenance action or function is accomplished.

Maintenance supervisors may add additional tasks and suggest changes. QA inspectors will respond and perform an inspection, but can waiver this requirement on a limited basis. QA will consolidate the group inputs and coordinate MXG/CC approval. QA will review the list at least quarterly. Include, as a minimum, the following categories on the unit KTL:

10.10.3.7.1. (Added) Major aircraft inspections (phase, periodic, and ISO).

10.10.3.7.2. (Added) Engine final inspection (JEIM) (propulsion shop).

10.10.3.7.3. (Added) Engine bay inspections prior to engine installation.

10.10.3.7.4. (Added) Engine, after installation.

10.10.3.7.5. (Added) Engine rigging at time of installation (when required).

10.10.3.7.6. (Added) Engine throttle at time of installation.

10.10.3.7.7. (Added) On F110-100/129 engines, anytime maintenance is performed on the variable stator vane system (JEIM).

10.10.3.7.8. (Added) Final aircraft gun system installation prior to panel installation.

10.10.3.7.9. (Added) Final gun system inspection (in-shop).

10.10.3.7.10. (Added) PACAF functional managers or QA may add additional tasks that they feel should receive mandatory inspections to the list. QA will consolidate wing inputs for the 100 percent KTL and it will be approved by the MXG/CC in writing. Standardized Acceptable Quality Levels (AQLs/baselines) will be developed by QA for all tasks on the 100 percent KTL. QA will review the list at least quarterly to ensure it encompasses those maintenance actions/functions that directly affect maintenance quality. Each affected organization will be provided a copy of the list by QA.

10.10.3.8. RILs will be evaluated at least quarterly. Standardized Acceptable Quality Levels AQLs/baselines will be developed by QA for all tasks on the routine list and it will be reviewed quarterly. In addition to those mandatory RILs established in AFI 21-101, PACAF units will also include the following when applicable:

10.10.3.8.12. (Added) Aircraft launch and recovery procedures.

10.10.3.8.13. (Added) Aircraft status reporting.

10.10.3.8.14. (Added) Aircraft engine intake inspections.

10.10.3.8.15. (Added) Weapons, flight line and backshop maintenance.

10.10.3.8.16. (Added) Weapon maintenance and munitions build-up.

10.10.3.8.17. (Added) Technical order management.

10.10.3.8.18. (Added) OAP program (to include sampling procedures, documentation, etc.).

10.10.3.8.19. (Added) EOR procedures.

10.10.3.8.20. (Added) MODE IV/radar warning receiver (RWR/RTHW) checks.

10.10.3.8.21. (Added) CAMS documentation.

10.10.3.8.22. (Added) Egress maintenance (except for egress tasks that require mandatory follow-up).

10.10.3.8.23. (Added) Paint/corrosion control maintenance.

10.10.3.8.24. (Added) Survival equipment maintenance.

10.10.3.8.25. (Added) Borescope program and procedures.

10.10.3.8.26. (Added) TCTO scheduling and accomplishment.

10.10.3.8.27. (Added) Flight control rigging procedures and primary flight control rigging tasks as designated in aircraft MDS-specific technical data.

10.10.3.8.28. (Added) Cannibalization aircraft review; tags, documentation, aircraft condition, etc.

10.10.3.8.29. (Added) Support equipment.

10.10.3.8.30. (Added) Aircraft weapons systems reconfiguration activities (installation/removal of racks, adapters, launchers, pylons, etc.).

10.10.3.8.31. (Added) Engine blade blending (QVI and PE).

10.10.3.8.32. (Added) Uninstalled engine test cell operation.

10.10.3.8.33. (Added) Engine magnetic chip detector and oil filter inspection.

10.10.3.8.34. (Added) TNB/FOM/DIFM management.

10.10.4. Show inspections and evaluations that will be conducted during the upcoming quarter.

10.10.4.4. Review and update the plan during the quarter.

10.10.5.1. 2W1X1 inspector(s) will inspect, as a minimum, 10 percent of all completed maintenance inspections in aircraft armament each month.

10.10.5.1.1.1. During team evaluations, errors committed by the team member(s) and not detected by the team chief may also be attributed to the team chief. Additionally, team evaluations may be conducted.

10.10.5.1.1.2. The supervisor of a team task is responsible for the entire teams performance, but all members can be rated separately. The team task is rated overall pass or fail. Team evaluations are scored the same as PEs.

10.10.5.1.1.3. (Added) Graduate Assessment. Inspectors, working in conjunction with MTF, perform an established number of PEs on graduates to provide feedback to MTF on the effectiveness of training courses as required by PACAF training instruction.

10.10.8.1. Includes all actions necessary for the proper completion of the specific work card item or TO step. The detection of foreign objects will be a Class I discrepancy.

10.10.8.2. Other discrepancies found during normal accomplishment of maintenance, but are general in nature. Zonal observation items are considered as a Category II discrepancy.

10.10.8.6. (Added) QA reviews Category II major discrepancies quarterly to determine if frequency of items identified warrants inclusion in technical orders. If so, QA submits an AFTO Form 22, Technical Order System Improvement Report and Reply, or develops a local work card or checklist.

10.10.8.7. (Added) Include high-missed carded items from PEs and QVIs in the MSEP summary. A high-missed carded item is defined as any work card item missed at least three times during a one-month period. Units should use the high-missed carded items to enhance maintenance-training program, detect trends, and basically improve the quality of maintenance.

10.10.9. PACAF units will use the AF Form 2419 or the QA Database to document special inspections.

10.10.11. Safety and technical violations are in a separate discrepancy category in the MSEP. They may be reported by anyone assigned to the group and are corrected on the spot.

10.10.11.3. Examples include, but are not limited to improperly stored hazardous material or oily shop rags piled up in a corner. UCRs are non-rated.

10.10.11.4. QA performs acceptance inspections when directed by the MXG/CC and develops procedures for aircraft acceptance and transfer inspections. Write procedures for doing aircraft acceptance inspections on aircraft returning from programmed depot maintenance, field team depot or contract field team maintenance. As a minimum, acceptance inspections will be of sufficient depth to determine the ability of the item to perform its designed function.

10.10.11.5. (Added) General Observation (GO). A GO report is used to identify both positive and negative conditions. A positive report identifies something that is being done correctly, or exceptionally well, but was not a planned inspection or evaluation. A negative condition is also one that is an unplanned observation that is outside of acceptable standards but does not fall within the parameters of a DSV, TDV, or UCR. Some positive examples would be a clearly exceptional task performance, professional conduct above the normal standards, or outstanding equipment forms binder. GOs should be used to recognize as well as shape positive behavior and sound maintenance practices.

10.11.3. (Added) When establishing the AQL/baseline consider at least six months of data on Class I minor, and Class II major discrepancies, evaluations performed and other pertinent data. Consider combining items of equipment within a general equipment type having nearly identical standards.

10.11.4. (Added) The MXG/CC approves the AQLs/baselines and adjusts those that are unrealistic.

10.12. The listed fields, Inspection, and Discrepancy categories must be used regardless of the tracking program used. Due to widespread availability of Microsoft™ Access™ software, it is the preferred software for cataloging assessment data. NOTE: This does not constitute endorsement of Access™ or any other Microsoft™ Corporation product by DoD, the USAF, or PACAF. Crosstell trend analysis information, and in particular, share recommendations or results, which have potential to enhance maintenance quality or readiness at other units. Units are also encouraged to expand on these minimum data fields and submit recommendations to PACAF at any time, for possible inclusion in revisions to this instruction.

10.12.7. The Assessment Sub-Category may be adjusted to each different airframe, but the main categories will remain the same throughout the command. Those categories are: A=Ground Handling, B=On Aircraft Inspection, C=Off Aircraft Inspection, D=On Equipment Maintenance, E=Off Equipment Maintenance, F=Support Equipment, G=Aerospace Ground Equipment, H=Munitions, I=Management Inspection, J=Environmental Compliance, K=Training, L=Technical Order Distribution Account, M= Other Inspection/Observation.

10.12.13. Correlates with the "Malfunction Codes" in the 06 manual, but is more general in nature since it is not used to report maintenance actions in CAMS. These categories are: 1=Safety, 2=Foreign Object, 3=Leak, 4=Loose or Missing Hardware, 5=Broken or Damaged, 6=Chafed or Worn, 7=Out of Tolerance, 8=Incorrect Servicing, 9=Incorrect Installation or Application, 10=Corroded, 11=Cut or Punctured, 12=Dirty or Contaminated, 13=Binding, Stuck or Jammed, 14=Overdue, 15=Documentation Error, 16=Failed to Operate, 17=Unsafe or Unfit to Operate, 18=No Defect, 19=Lack of Technical Proficiency/ System Knowledge, 20=Failed to comply with T.O. steps/Instructions, 21=Failed to detect a Major Discrepancy.

10.13. Include an “honor roll” of individuals consistently earning excellent ratings.

10.13.2. Data from evaluations can be extracted to fit the needs of the process owner and to help in determining acceptable levels of performance. For purposes of illustration, lets say the AQL/baseline for an aircraft preflight is set at five. QA compiles assessment data and analyzes it to determine if preflight QVI ratings exceed, meet, or fall below a desired performance goal. If evaluated preflights consistently received pass ratings, QA may propose adjusting the AQL/baseline to allow *fewer* minor findings in order to receive the same pass rating, or reduce the number of assessments performed in that category. QA should also cross-tell with sister units to determine if this is a success story to share or if assessments aren't as in-depth as those of sister units. If the percentage of preflights receiving pass ratings falls near the performance goal, then QA may elect to leave the preflight AQL/baseline at five and continue to monitor the task or category for trends. However if the percentage of preflight evaluations receiving pass ratings is lower than the performance goal, then an improvement opportunity exists and QA should work with the squadron to develop an action plan for improvement. Courses of action for this plan could include: assessing quality of training provided; looking for process problems, such as inadequately stocked benchstocks, outdated/improper tech data, etc.; or allowing more minor findings because the established standard is too strict. Allowing more minor findings--and making a pass standard *less* stringent--will be done *only* when it’s determined that the AQL/baseline is too strict for the process being evaluated. The MXG/CC must approve any adjustments to the AQL/baseline.

10.13.3. (Added) Weekly Summary Reports. If required by the MXG/CC, the chief inspector publishes a weekly summary of the previous week's findings and observations, to give maintenance supervisors timely feedback. The weekly summary should be brief, informal, timely, and useful to managers. It should be a quick description of important findings by squadron, flight, or section, with comments by dedicated inspectors on their area. Do not include isolated incidents (unless they resulted in damage to equipment or injuries) or names of individuals receiving unsatisfactory ratings in the summary report. Distribute weekly summary reports to squadron commanders, maintenance supervision, MSA/DBM, MDSA, and MTF. Maintenance supervision distributes the report within their squadron.

10.13.4. (Added) Monthly Summary Reports. The squadron dedicated inspector or augmentee will write and publish a monthly summary based on evaluations and inspections conducted during the month. The report should be a word picture of inspections and evaluation results, not merely a listing of inspections and ratings. Review previous monthly summary reports to determine trends. As a minimum, send the report to MXG/CC and squadrons.

10.14. Conduct monthly QA Review Boards to review the previous month’s QA evaluations. This meeting should include QA inspectors and maintenance supervision from the squadrons. Review information from the previous month and make adjustments to the MSEP as necessary. The agenda should include, but not be limited to reviewing the KTL/RTL, AQL/baselines, QVI, PE, DSV/TDV/UCR, and SI review, and trend analysis. QA forwards a copy of the review board briefings to the WG/CC following the review board on a monthly basis (or as frequently as needed by the WG/CC). At a minimum, the WG/CC will receive the briefing quarterly on the previous quarters inspection activities.

10.15.2.1. Use a logbook or desktop computer program to record and monitor DRs. Units will publish procedures outlining specific procedures for DRs.

10.15.2.1.1. Performs exhibit-processing oversight by coordinating with AFMC, base supply, and transportation to ensure proper exhibit control and handling. Provides DR support for reconnaissance equipment according to the appropriate LSP.

10.15.2.2.1. The PIM is not the technical aircraft or equipment expert, but the PIM will insure proper evaluation was performed, forms are properly filled out and processed according to established procedures.

10.15.2.4. The PIM is an integral part of the information gathering and education process of PIWG inputs to PACAF and subsequently to the appropriate lead command. This is accomplished by emphasizing and promoting the PIP through to maintenance technicians and supervisors during visits.

10.15.2.4.1. Identifies potential PIWG items by the letter "P" on the DR logs.

10.15.2.4.3. (Added) Forward consolidated proposed PIWG items to the appropriate PACAF system functional manager for approval.

10.15.2.5. (Added) Monitoring the TODO and its sub-functions, including the central TO file, local checklist, job guide and local work card program, computer program identification numbering (CPIN), pack-up data IAW TO 00-5-2, *Automated Technical Order Management System (ATOMS),* and timely notification of priority technical data changes to appropriate maintenance supervision.

10.15.2.6. (Added) Managing deficiency reporting (DR), to include quality, materiel, software, warranty and service reports, exhibit processing, technical order deficiencies, and inputs for R&M working groups (AFI 21-118).

10.15.2.7. (Added) Monitoring the configuration management process, including the TCTO program, OTIs, modification proposals and local maintenance requirements. Procedures are found in AFI 21-101, TO 00-5-15, TO 00-25-107, and this instruction. Evaluate the unit's overall configuration management program by reviewing technical, managerial and documentation aspects of the program, and reporting deficiencies to appropriate local manager or as directed in TO 00-5-15 and PACAF instructions. Immediate, Urgent, and Safety TCTOs require particular emphasis.

10.15.2.8. (Added) Controlling the TO improvement program as outlined in TO 00-5-1.

10.15.2.9. (Added) Consolidating and forwarding PIWG proposed items to PACAF.

10.15.2.10. (Added) The Air Force IDEA Program. The Air Force IDEA program has been automated to enhance and streamline the process using, IDEA Program Data System (IPDS). The PIM process and monitors maintenance related suggestions according to AFI 38-401, The IDEA Program. When required by the base suggestion office, the PIM determines the appropriate OPR for maintenance related suggestions. Route all maintenance related suggestions through the PIM for final screen prior to leaving the base. The PIM should ensure IDEA applications are thoroughly and adequately evaluated and correctly staffed before forwarding for subsequent headquarters or depot evaluation.

10.16.1. An electronic methods and procedures TO library may be used in lieu of traditional paper version of these TOs. This includes specific TOs identified by the MXG/CC and the QA superintendent. Include current inspection work cards, work unit code manuals and maintenance checklists for each type and model of equipment maintained by the aircraft maintenance functions. EXCEPTION: Do not include TOs used in support of one-of-a-kind equipment, transient maintenance, one-of-a-kind base support aircraft, and TMDE. Type IV PMEL TODA may be serviced by the QA central TODO.

10.16.1.6. (Added) Provide the following verified/updated information on all unit TODOs in the wing to HQ PACAF/LG ALOC annually no-later-than 1 February: Unit Mailing Address, TODO Number, JCALS Number, Primary TODO Name/Rank/DSN Telephone Number/DSN FAX Number/E-Mail Address, Alternate TODO Name/Rank/DSN Telephone Number/DSN FAX Number/E-Mail Address.

10.16.5. QA must thoroughly research the procedures detailed in local technical instructions before publication, and validate them for currency (TO 00-5-1).

10.16.8. Document inspections by any means that facilitate verification of accomplishment.

10.17.1. See Chapter 15 for OTI / TCTO management procedures.

10.17.1.1.14. A corrective action (dependent upon results).

10.17.1.1.15. Status reporting instructions.

10.17.1.1.17. (Added) Estimated work hours.

10.18.1. PMEL TCTOs are reviewed by the TMDE flight.

10.18.3. (Added) In addition to responsibilities listed in Chapter 15, the PIM (or TCTO monitor) responsibilities in the TCTO process include:

10.18.3.1. (Added) Date-stamping all TCTOs with the date received to establish the start of the TCTO compliance period. The compliance period for "Urgent" and "Emergency" TCTOs begins when the official message arrives on base.

10.18.3.2. (Added) Send a copy of munitions or missiles TCTOs to the munitions flight and munitions operations. Do not give 11N-series TCTOs to base supply, materiel control or MSL.

10.18.3.3. (Added) Monitor and document the initial compliance TCTOs to determine the depth and frequency of inspection coverage. Subsequent inspection coverage should be related to the complexity of the TCTO or criticality of the system or the component is to be modified.

10.18.3.4. (Added) Support verification and TCTO kit proofing OTIs and command directed modifications.

10.18.3.5. (Added) Attends all TCTO planning and reconciliation meetings.

10.18.3.6. (Added) Route completed TCTO and modification information for updating W&B records.

10.19. The requirement for an aircraft FCF is driven primarily by MDS specific technical orders. However, the decision to perform an FCF can be exercised by commanders at all levels. Units with B-1, B-2, B-52, E-4, E-8, C-9, C-12, C-20/21, C-37, C-40, C-130, E-3, and C-135 series aircraft rarely perform FCFs. When aircraft listed above require an FCF, the OG/CC issues a temporary written certification designating the most highly qualified crew available. The FCF Program Manager will maintain temporary certification letters listing all aircrew available for use in the event an FCF is required. FCF aircrew listings will be updated annually.

10.19.1. Ensure crews are briefed on the provisions of TO 1-1-300.

10.19.1.1. (Added) MXG/CC will appoint a NCO assigned to QA to assist in executing the FCF program.

10.19.2.5. (Added) Maintains a copy of FCF certification letters Functional Check Flight Training and Recurrency Certificate.

10.19.3.4.3.1. (Added) The file must also contain the following:

10.19.3.4.3.1.1. (Added) Mission profile for each type of assigned aircraft, consisting of checks to be accomplished, presented in consecutive order.

10.19.3.4.3.1.2. (Added) Copy of TO 1-1-300.

10.19.3.4.3.1.3. (Added) Map of local FCF area or route of flight.

10.19.3.4.6. (Added) QA FCF Manager will:

10.19.3.4.6.1. (Added) Review the log monthly for trends indicating problems requiring further analysis or corrective actions. Identifies deficient areas and forwards to the MXG/CC for review or action.

10.19.3.4.6.2. (Added) Ensure aircraft forms and the FCF checklists are accurately documented.

10.19.3.4.6.3. (Added) Serve as the focal point and ensures all FCF requirements are completed on transient aircraft. Establish clear lines of communication between the transient alert section, host base FCF function and the owning organization.

10.19.3.4.6.4. (Added) Debrief all FCF crews to determine if all requirements were accomplished. Tape recorders may be used to provide detailed accounting of in-flight discrepancies, assist troubleshooting and aid in debriefing.

10.19.3.4.7. (Added) Conduct semi-annual FCF Program meetings chaired by the FCF OIC. Minimum attendees include FCF aircrew, Standardization and Evaluation representatives, the QA FCF Manager, and a representative of QA Supervision. The QA FCF Manager will provide information (including the number of FCF aircrew and a review of FCF results over the last 6 months) from this meeting to the MXG/CC and Maintenance Squadron (AMXS, MXS, CMS, EMS) supervision via briefing or other suitable means.

10.19.3.5.3.5. An air abort due to a condition other than the one that generated the FCF is not counted as an FCF non-release, provided the original condition requiring the FCF checked good. Enter new discrepancies in AFTO Forms 781A.

10.19.3.5.3.6. (Added) However, at the discretion of the FCF PM and the MXG/CC recommendation, the FCF profile may be tailored for the maintenance requirement causing the FCF.

10.19.3.6. See paragraph 10.19.10.(Added)

10.19.4. (Added) Unit Procedures. As a minimum, establish and publish local procedures to this instruction to include:

10.19.4.1. (Added) Accomplishing FCFs on transient aircraft.

10.19.4.2. (Added) FCF configuration.

10.19.4.3. (Added) Fuel Load.

10.19.4.4. (Added) Debriefing procedures.

10.19.4.5. (Added) FCF requirement at off-station locations.

10.22. Perform according to applicable aircraft dash-1 and maintenance technical orders.

10.22.1. Ensure enough fuel is on-board to execute a takeoff, normal pattern, and landing with applicable reserves should unexpected circumstances dictate getting the aircraft airborne.

10.22.3. (Added) Squadrons and QA jointly develop an aircrew briefing checklist specifically for high-speed taxi checks, to include the required FCF briefing items and pertinent warning, cautions, etc. For example, allow sufficient cooling time for aircraft brakes prior to additional taxi checks.

10.23. AFI 21-101, AFI 21-107, and weapons system TOs direct the establishment of a weight and balance program. The QA W&B manager ensures compliance with Air Force weighing TOs and maintains

required documents. Specialist support is requested as necessary to assist in the inventory, removal or installation of equipment.

10.23.1.1. Document W&B qualifications in the CFETP. W&B technicians must perform an annual aircraft weighing to maintain proficiency. W&B technicians assigned to aircraft normally weighed only at depot (KC-135, C-130, etc.) and do not perform aircraft weighing at their home unit are exempt from this requirement.

10.23.1.2. Unless otherwise required by TOs, weighing an aircraft after maintenance by a local or deployed CLS team is not directed.

10.23.1.3. Coordinate W&B scheduling with AMU/MOF PS&D. Contractor Logistics Support (CLS), when specified in the contract, will maintain those documents. Contractor performance will be verified by the unit QAR, who will be weight and balance qualified.

10.23.1.11. (Added) U-2 aircraft are weighed at the depot. Annotate W&B computations on Det 8, 2762 LS Form 52. U-2 W&B functions may be automated. If automated, QA ensures equipment changes affecting W&B are updated in the automated program. This requirement applies to aircraft and sensor equipment changes.

10.24.4. Annual refresher training will be conducted by the MTF during annual block training.

10.26. (Added) **The Air Force Repair Enhancement Program (AFREP).** The goal of the AFREP is to optimize mission capability and reduce total Air Force material costs using base repair capabilities or by procuring repair services. The AFREP is an optional, wing-level program designed to encourage innovation, ingenuity, and resourcefulness (refer to AFI 21-123, *Air Force Repair Enhancement Program* and PACAF supplement to AFI 21-123). AFREP provides an opportunity to find safe, new and smart repairs for a resolution of unfilled current mission requirements. It increases combat capability by improving base self-sufficiency and reduces operation and maintenance costs through sharing ideas. AFREP manages the following processes; 1) Combat Oriented Repair Initiative (CORI) and 2) Circuit Card Repair (CCR).

10.26.1. (Added) CORI. A process established to implement repair of expendable items.

10.26.2. (Added) CCR. Troubleshooting, isolation, and repair of defective circuit cards using computer-based diagnostic equipment.

10.26.3. (Added) Emphasizing and Promoting the AFREP. AFREP must be publicized to ensure all maintainers are familiar with the AFREP Processes. Circulating flyers, visiting commander's call, maintenance orientation briefings and routine visits to maintenance areas are ways of promoting AFREP.

10.26.4. (Added) The scope of the AFREP is to identify possible base level repair and contract initiatives, manage the initiative through the "AFREP Process", and once all the requirements of the "unit process" have been accomplished and the repair initiative is formalized, establish the repair capability on the base. Once the repair capability is established, the AFREP Flag manager monitors repair actions IAW AFI 21-123.

11.2.4. Impoundment Release Authority will only be delegated below the Deputy MXG/CC to meet mission requirements for deployed operations or for periods when both the MXG/CC and MXG/CD are unavailable.

11.3.12. (Added) Mandatory when an item is lost or suspected lost within the immediate vicinity (in or around) of aircraft and not found.

11.4.2. The procedures at a minimum will address impoundment situations, decision process, home station notification, and clearing officials. These directives may also include procedures for segregating impounded items (e.g., roping off or placarding), forms entries, appointment and responsibilities of impoundment investigating officials, any special handling or tagging of parts from impounded items which are sent through the repair cycle, and procedures to be followed in conducting impoundment investigations across group lines, etc.

11.4.3. (Added) The impoundment official determines if maintenance analysis support is required.

11.6.1.1. For example, complete the power-off look phase BPO inspection, service fuel, take engine oil samples and service the oil system unless the impoundment investigation requires fluid samples. Inform the MXG/CC and the wing/base safety office of the impoundment action.

11.6.1.5. (Added) The aircrew operational procedures 10-series list the rules for aircrew personnel.

11.6.2.4. If applicable, perform the power-off look phase BPO, engine oil sampling and fuel/oil servicing unless the impoundment investigation requires fluid samples.

13.1.1. (Added) Terms:

13.1.1.1. (Added) Tool Room. Areas specified by the maintenance supervision for secure storage of CTKs, tools and equipment. The maintenance supervision establishes responsibilities when more than one work center operates from a single tool room or when work centers decentralize equipment.

13.1.1.2. (Added) Composite Tool Kit (CTK). Composite tool kit containing tools and equipment necessary to accomplish maintenance tasks, troubleshooting and repair.

13.1.1.3. (Added) CTK Custodian. Individuals designated in writing by flight commander/chief to manage and control CTKs.

13.1.1.4. (Added) Master Inventory Listing (MIL). Primary source document for inventory of CTKs. The MIL is broken down to indicate the total number of items in each drawer or section of the tool kit.

13.1.1.5. (Added) Dispatchable CTK. CTK issued out to perform a specific task or for use by a specific AFSC and is designed to be used outside the tool room or work center.

13.1.1.5.1. (Added) Place large items, i.e. tester cables, in divided sections with the contents of the compartment labeled; shadowing is not necessary. Items secured to toolbox lids and doors will be silhouetted. Standardize CTK contents to the maximum extent possible within functional areas having similar jobs, i.e., crew chief toolboxes.

13.1.1.6. (Added) Shop CTK. Tool kits (not dispatched) used in work centers that may be left open for personnel to use during a shift provided a single person is responsible for the tool kit.

13.1.1.6.1. (Added) Each tool in a shop CTK has an assigned location. Locations may be identified by inlays cut in the shape of the tool, shadowed layout or divided sections with the contents of the compartment labeled.

13.1.1.7. (Added) Individual Issue Bins (IIB). Tools and equipment that are available for individual sign-out but stored in the tool room in storage bins, cabinets, shelves, etc., with every item having an assigned location.

13.1.1.7.1. (Added) Each tool in an IIB has an assigned location. Locations may be identified by inlays cut in the shape of the tool, shadowed layout or divided sections with the contents of the compartment

labeled. Mark tools or equipment items issued from these bins with a CTK number and with an individual ID number to aid in inventory.

13.1.1.8. (Added) Special Purpose CTK. Small individually issued tool kits that, because of the nature of contents, could preclude shadowing or silhouetting (e.g., launch kits, recovery kits, cartridge cleaning kits, oxygen servicing kits, etc.

13.1.1.9. (Added) Rag. A remnant of cloth purchased in bulk or a standardized, commercial quality, vendor-supplied shop cloth (uniform size and color) used in general industrial, shop, and flight line operations.

13.2.1.1. Store CTKs, tools and equipment in a designated location for positive control and ease of inventory. Lead seals include the following; lead, tool-less Roto, or other approved sealing devices listed in applicable T.O.s.

13.2.1.6. Including, notifications and management actions for lost tools relative to post aircraft taxi and take-off.

13.2.1.9. See paragraph **13.10. (Added)** for additional guidance.

13.2.1.13.3. Local procedures will, as a minimum, direct a second party or on-duty supervisor inspection of the tool kit.

13.3.1. Remove and replace all unserviceable, broken, worn, or excessively corroded items in the CTK. Do not place loose material that can become a FOD hazard in the CTK. Keep hardware, etc., not in use in a container and place FO in a properly identified container.

13.3.3. Approves CTK contents by signing the CTK MIL. Approval authority will not be delegated down to CTK Section supervisor/monitor etc. **NOTE:** Flight/Section Chiefs may use a Memo For Record to approve CTK content lists. A copy of the MIL remains with each tool kit at all times for inventory purposes. All changes are annotated in ink on the MIL with the CTK custodian's initials and date.

13.3.4.3. Lock(s), key(s), and tie down strap, if not permanently attached, will be marked/etched with the appropriate CTK number and listed on the MIL.

13.3.4.6. If used, FO bags will be designated as part of the CTK.

13.3.4.7. Spare bulbs in flashlights are also considered consumables.

13.3.5. (Added) Expendable hand tools such as blades, apexes, files, and file cleaners consumed during use may be placed on bench stock. However, strict accountability and control procedures are included in unit procedures. If items are not placed on bench stock, the replacement tool procedures in paragraph **13.9. (Added)** apply.

13.4.1. Mark all Individual Equipment (such as reflective belts, gloves, etc.) issued to personnel which is not controlled through the CTK with the owners first initial, last name, and last 4 of social security number (i.e. J. Doe, 1234). All tools and equipment will be etched, including, but not limited to, those tools assigned to a CTK, issued for use from a tool room, used within a tool room, used within a repair shop, used within a repair facility, or used on the flight line. Mark all tools and equipment to distinguish the owning organization within the wing/base. Note: a container with 10 pieces will reflect a total of “11 Pieces”—10 pieces plus the container.

13.4.7. (Added) Tools or test equipment issued individually from a CTK are marked with a WWID designed to act as a position designator to identify tool ownership and aid in CTK inventories. Each item

displayed is marked with this position designator (e.g., EHCAFB203 may indicate Eielson AFB AK, CMS, Accessories Flight, Fuels Section, cabinet "B", drawer "2", position "3"). The above example is just one combination units may use to mark tools with position indicators. Position designators are especially important in identifying multiple "like" tools that are issued individually from a CTK.

13.4.8. (Added) For safety, clearly mark all flight line dispatchable tool kits and equipment with reflective tape. The reflective tape should be visible from all angles.

13.5.1.3. (Added) Composite Tool Kit (CTK) Inventory and Inspection Log. TAS is the Air Force system of record for tool tracking and accountability. TAS automated capabilities and products will be used. The PACAF Form 140 will be used as a hard copy back-up to TAS and for in instances where TAS is not employed. TAS hardcopy inventories and a PACAF Form 140 will remains in the tool room support section, or work center. A separate TAS hardcopy inventory and a PACAF Form 140 are maintained for each CTK. The PACAF Form 140 will be used to record CTK/tool transactions (check in/check out) as a backup to TAS. Completion of each line of the PACAF Form 140 denotes a complete inventory of contents. The "out time/signature" block is annotated by the person signing out/assuming responsibility for the CTK/equipment. The "in" block is annotated by the tool CTK custodian/alternates or designated representative when the CTK/equipment is returned by the user. The person annotating the "out" block is not the same person annotating the "in" block. TAS is the system of record for inventory tracking and signing in/out tools or equipment. The PACAF Form 140 will reflect all information contained in TAS. NOTE: TAS is a system still in development. As such, functionality does not always match advertised capability. MXG/CCs can authorize standardized work-a-rounds in TAS to establish critical functionality until new releases of the program incorporates this functionality. TAS products will be used to the maximum extent possible.

13.5.1.4. (Added) CTK Inventory and Inspection Log. Document all removed, missing or damaged tools and equipment (e.g., broken, TMDE lab, lost, etc.) in TAS and on the PACAF Form 140. Maintain a hardcopy of the PACAF Form 140 in each CTK folder and with each CTK. When PACAF Form 140 is full, initiate a new form and transfer all open entries.

13.5.2. Contents of shop CTKs and individual issue bins that are opened are inventoried at the beginning and end of each shift and signed for by the user, flight chief, section chief, or work leader. Document shift inventories in TAS and on a PACAF Form 140. If the PACAF Form 140 becomes full, initiate a new one and discard the completed form after three duty days. Develop a simple inventory method, i.e. a "show and know" concept.

13.5.2.1. Do not pass items, including dispatchable and non-dispatchable CTK’s, from one person to another without flowing back through the tool room unless the action is governed by locally developed procedures.

13.5.2.2. All CTKs will be inspected/inventoried semiannually. MXG/CC will implement a more stringent inspection cycle if environmental factors dictate. Schedule individual CTKs and contents for a thorough inspection/inventory (inspect for rust, broken tool, legible etching, adequate tools etc.). Outgoing and newly appointed custodians perform an inventory together. Document the inventory to the Flight commander/chief by letter indicating date accomplished and discrepancies. Maintain a copy of the inventory in the master MIL book until the next custodian change.

13.5.4. (Added) Units may establish a program for secure sealing of low-use tools (optional). This method involves identifying items that ordinarily require counting during shift inventories, and sealing the items with a physical indicator to speed inventory by avoiding unnecessary counting. Tools that are

only signed-out every 45 days or more are considered low-use. Examples are drill bit kits, Allen key sets, and tap and die sets, files, etc. Any tool kit or equipment item having multiple pieces, and capable of being enclosed in a pouch, box, or container, is worth including in a low-use sealing program.

13.5.4.1. (Added) Inventory the identified low-use items any time they are returned from a job and seal them in a way that prevents opening without breaking the seal (i.e. computer label sticker, lead seal, plastic zip strip, etc.). Label the item with the signature of individual performing tool count, date counted and sealed, number of pieces, tool kit number or item number, and next CTK semiannual inventory date. The low-use sealed items are only required to be verified as "present" during daily shift inventories as long as the seal is intact. The seal remains valid as long as the item is unused and the seal remains secure, or until the next semiannual CTK inventory. Low use items will be identified on the appropriate MIL.

13.6. QA and the owning work center (“the user”) will maintain records of all approved locally designed tools and equipment, including pictures or drawings, a description of the use for each item, and the owning work center. If a TO contains the option of a locally designed tool, QA and user do not need to coordinate or maintain records on that tool as long as the tool remains approved by the TO. NOTE: Weapons loading and weapons maintenance locally designed equipment will be coordinated through the wing weapons manager.

13.8.1.1. When an item/tool is discovered missing after an aircraft has taxied, AMU supervision will notify the MOC and the Flying Squadron Top Three, who in turn will initiate procedures to notify the pilot and recall the aircraft, if necessary.

13.8.1.4. One hour will not be exceeded. If the item/tool is not found the aircraft will be impounded IAW Chapter 11.

13.8.1.5. Initiate a Lost Tool Report if the item is not found within 1 hour of search. The form is given to the individual's supervisor to initiate the investigation. The squadron production superintendent will notify the appropriate agencies as defined by local procedures. Maintenance supervision will sign the PACAF Form 140a after all procedures are complete, notifications made, the AFTO Forms 781-series and the aircraft impoundment is cleared. In order to maintain accurate tracking information, once a Lost Tool Report is initiated, it must be completed, even if the item is found. Forward the completed original report to QA for filing, or the report may be filed by the Wing FOD Monitor if the Wing CV has assigned responsibility for tracking lost tools with the Wing FOD Monitor. The CTK custodian will retain a copy of the PACAF Form 140a for no less than one year or until the tool is found. The CTK custodian(s) will follow-up when a completed form is not returned to the custodian within 5-duty days from date of initiation.

13.8.1.9.1. Clearly capture the decision to leave the item in place on a Memo for Record that summarizes the actions taken and the supervisors authorizing the decision. Include copies of relevant correspondence and any x-rays. Ensure the memorandum states the location of the lost tool/item. Place memorandum in the aircraft historical records file until the tool is recovered.

13.8.1.10. The QA chief inspector notifies the aircraft functional manager at the appropriate HQ, providing all pertinent information. PACAF confers with the responsible ALC on appropriate action and, in turn, notifies the unit on actions to take.

13.8.1.10.2. Also ensure AFTO Form 103, Aircraft/Missile Condition Data is annotated for depot to remove the item/tool.

13.8.1.11. (Added) CTK custodians will inform QA when lost tools are found after the PACAF Form 140a has been closed out. The CTK custodian will retain a copy of the PACAF Form 140a for no less than one year or until the tool is found. QA will inform the Wing FOD manager when lost tools are found.

13.9. (Added) **Tool Replacement Procedures.** A stock of spare tools is authorized. These tools are used to replace broken, worn, or missing tools to prevent unnecessary work delays. Spare and consumable tools are high pilferage items, and pose a significant potential for fraud, waste, and abuse. CTK custodians authorize the tools and quantities maintained. Inventory replacement tool stocks quarterly. Use a general-purpose form (such as AF Form 3131, *General Purpose*) to annotate log entries when a tool/item is added or removed from the inventory stock. During the quarterly inventory, the CTK custodian will validate the quantity of tools/items within each bin. To aid in accountability, control, and inventory, each tool/item will be separated by use of individual bins or dividers, and sequentially numbered accordingly. Access to spare tools will be limited to the shift supervisor (or equivalent) and CTK custodian.

13.9.1. (Added) Do not issue replacement tools without a turn-in of the unserviceable tool or PACAF Form 140a documentation indicating the tool is lost and reported accordingly through lost tool procedures. Mark replacement tools with the CTK number prior to issue. If previously issued serviceable tools are to be used as replacement tools, completely de-etch any prior CTK assigned markings.

13.10. (Added) **Rag Control Procedures.** Rag control applies to all maintenance organizations. While marking or identifying each shop rag with a CTK number is not necessary, issue and receipt procedures will be established to ensure positive control and accountability. When possible, rags of uniform size will be used to facilitate control procedures. Repair shop elements, including structural maintenance and corrosion shops, are authorized to use bulk ordered non-uniformed lint free rags, provided they follow at least one of the recommend control methods listed in this paragraph. Some recommended methods of shop rag control include:

13.10.1. (Added) Issuing rags on a one-for-one swap.

13.10.2. (Added) Issuing a predetermined number of rags with CTKs and including them on the CTK contents listing.

13.10.3. (Added) Issuing rags in pre-packaged containers with the number of rags marked on each container. Other locally devised accountability methods may be used. Ensure deployment taskings and TDY requirements are considered when local shop rag control procedures are developed.

13.11. (Added) Warranty/Quality Tool Program. The purpose of the warranty/quality tool program is to ensure high-quality, industrial strength warranted tools are available for use in maintenance activities. Warranty tools are obtained at base supply tool issue centers or local contracts with a tool vendor. Units that wish to establish a warranty tool program should coordinate with base supply and the base contracting office (AFMAN 23-110). When preparing documents for base contracting ensure MIL SPEC (if needed) and other specific requirements are identified. Provide as much information as possible on desired strength, finish, insulation, physical dimensions, magnetic properties, laser etching, intrinsically safe requirements, and size of lettering. Specify replacement tool requirements, replacement tool delivery time, and replacement of lost tools, work center responsible for maintaining replacement tools, and number of tools stocked. NOTE: Does not apply to locations that purchase warranty tools through GSA or base wide contracts.

14.1. The MXG appointed WTQM and WTQC (when appointed) are responsible for:

14.1.1. (Added) In units where weapons personnel are not assigned, the specialist sections complete the AF Form 2434 on all aircraft configured and loaded to release or fire munitions.

14.1.2. (Added) In units where weapons personnel are not assigned, the specialist expediter or section chief coordinates with MOC or munitions control for the pick up and delivery of munitions items.

14.1.3. (Added) In units where weapons personnel are not assigned, the specialist expediter monitors the safety of flight line munitions operations.

14.1.4. (Added) Performing chaff/flare loading and unloading.

14.1.5. (Added) Ensuring aircraft -6 armament system inspections are accomplished.

14.3. Recurring training may be conducted during normal flight line operations.

15.2.1.3. Rotation plans will include projected next duty assignment and proposed effective date. Written rotation plans will be discussed with the effected supervisors and maintenance supervision during quarterly visits. The key to an effective rotation plan is early coordination with supervisors and balancing the needs of the wing with the training requirements of the individual. The functional manager will consider past positions, training needs, time in current position, and projected or pending personnel actions (PCS, retraining, separations, etc).

15.2.2.2. As a minimum, these procedures will direct MOF PS&D to distribute CAMS/IMDS products to AMUs and flying squadrons daily and monthly. Automated processes are authorized provided an audit trail is kept. Documentation of daily and monthly reconciliations will include the period reconciled, the total hours/sorties per MDS, the person completing the reconciliation, and a statement confirming the review is accurate/or detail any necessary changes. Daily reconciliations will be kept on file until the monthly product is reconciled and filed. Fiscal year monthly products will be kept on file for the entire next fiscal year.

15.2.2.3. MOF PS&D will coordinate with the PACAF weapon system functional manager who develops the schedule with the depot facility.

15.2.2.5. In coordination with MDSA, establish a dummy depot work center for each AMU to load depot deferred discrepancies.

15.2.3.4. ADR procedures will assign responsibilities to ensure; discrepancies with a scheduled start date and time greater than 5 days after the date of discovery are deferred, all TCTOs are entered on the AFTO Form 781K IAW TO 00-20-100-20-1, aircraft hours and engine times match data in CAMS, modular engine flying hours and manual cycles are verified with EM section, and entries on the front of the AFTO Form 781K are made IAW TO 00-20-100-20-1.

15.2.3.4.2. (Added) The procedures will outline configuration management verification requirements to include CAMS screen 990 for out-of-configuration condition. Establish a delayed discrepancy in the aircraft forms with a CAMS/IMDS work center event (WCE) for each WUC and part/serial number item requiring verification.

15.2.3.4.3. (Added) The AMU PS&Ds will ensure the aircraft forms have been reconciled with CAMS and complete a cursory review of all on-line or background products used to ensure the above items along with local requirements are verified and corrected before allowing the crew chief to clear the aircraft document review in CAMS/IMDS.

15.2.3.6. Procedures will include a historical documentation quarterly review checklist.

15.2.4. As a minimum, current paper copies or electronic versions of technical orders 00-5-15, 00-20-1, 00-20-100-20-1, 00-20-9, 00-25-107, applicable -6, and 11/14 series will be available in MOF PS&D.

15.2.4.4.1. (Added) All PACAF Maintenance Scheduling Functional Areas will use Maintenance Scheduling Application Tool (MSAT) or the most current HAF standardized Aircraft Maintenance Scheduling Mission Support Application to facilitate the management of MIS data. All functional areas in MSAT are to be utilized unless waivered by the PACAF Functional Manager. All comprehensive TCI, SI, and TCTO reviews will be conducted weekly utilizing MSAT.

15.4. These flow plans will not contain classified information. To prevent classification, do not include items such as wartime beddown locations, OPLAN title, A-hour (SIOP) timing, or no-later-than timing from OPLANs. **NOTE:** Automated products are authorized for use. However, these products must contain the same information found on AF Forms 2408 and 2409. For B-2, B-52, RC-135, and U-2 aircraft, mail one copy of each AF Form 2408 and 2409 to USSTRATCOM/J414, 901 SAC Blvd, Suite B-43, Offutt AFB NB 68113-6300. Submit changes and amendments as they occur.

15.4.5. Upon completion of all generations, unit generation flow plans will be verified by the generating AMU, MOC, QA and MOF PS&D for effective use of resources. MOF PS&D will modify plans as necessary.

15.5. Refer to PACAFI 21-165, as applicable.

15.6. Refer to PACAFI 21-165, as applicable.

15.7. Refer to PACAFI 21-165, as applicable.

15.7.3. (Added) OSS Current Operations Flight presents the AMXS and OS coordinated annual plans to the OSS, MXS, MOS, MXG and OG CCs for coordination prior to final approval from the wing commander. Approved plans are forwarded to PACAF and serve as the annual flying hour program contract.

15.8. Refer to PACAFI 21-165, as applicable.

15.9. Refer to PACAFI 21-165, as applicable.

15.10. Refer to PACAFI 21-165, as applicable.

15.10.2. Refer to PACAFI 21-165, or as applicable.

15.10.3.9. Refer to PACAFI 21-165, as applicable.

15.12.2.2.2. The MOF TCTO monitor will attend all initial TCTO meetings held by managing TCTO monitors (EM, MUNS) to ensure standardization and provide training throughout the wing.

15.12.2.2.6. MOF PS&D will ensure equitable distribution of TCTO kits to AMUs. Notify the AMU PS&D with the number of kits available and verify TCTO status changes in CAMS/IMDS. For example, if each AMU needs 28 kits and because limited kits arrived on base, MOF PS&D assigns 10 TCTO kits to each AMU, the AMU PS&D will select the 10 aircraft and immediately change the TCTO status for those 10 aircraft in CAMS/IMDS to 17.

15.12.2.2.8. Munitions and EM managing TCTO monitors will keep MOF PS&D informed of problems. MOF PS&D will assist when necessary.

15.13.1.4. (Added) Along with MOF EM and Munitions Scheduling attend the monthly supply time change reconciliation meeting IAW paragraph **8.7.3. (Added)** The reconciliation will consist of 100 percent validation of existing due-outs and a complete physical inventory of all issued time change items.

Inform supply of any "mark for" changes or items no longer required. MOF PS&D will gather necessary time change item information from the AMU PS&Ds such as the aircraft, event ID, item nomenclature, document number, due date, and projected scheduled date, prior to attending the supply reconciliation meeting.

15.13.2.4. Ensure the part number, serial number, position, reference designator, and lot number (as applicable) are loaded. For Calendar TCIs check the Date of Manufacture (DOM), Date of Installation (DOI), frequency and due dates to ensure they are accurate. For hourly, start, or cycle tracked TCIs, verify the DOI, and the sum of previous operating time/starts/cycles plus current operating time/starts/cycles equals the frequency due time.

15.13.2.8. Agencies requesting changes or updates to the need-date of any CAD/PAD item must coordinate with AMU PS&D, MOF PS&D, and MASO in sufficient time to preclude emergency issue requests. Refer to AFI 21-201 for emergency issue and contingency issue requests.

15.13.2.9. AMU PS&D will submit an updated quarterly forecast when the need date for parts are outside of the calendar quarter which the parts were forecasted for on the annual forecast. Submit the forecast to MOF PS&D for inclusion of the additional items into the yearly forecast totals for the wing. MOF PS&D then forwards it with the adjusted totals to munitions operations for ordering of the additional assets.

15.13.2.10. (Added) Provide MOF PS&D a complete list of due-out time change items prior to the monthly supply time change reconciliation meeting. The list will include the aircraft and event ID, nomenclature, document numbers, due dates and scheduled dates.

15.15.3.6.1. (Added) Egress system CAD/PAD verification inspections will be accomplished on newly assigned aircraft and upon those returning from depot/PDM where the egress system has been worked on by depot personnel.

15.15.3.7. AMU PS&D will manually load all time changes and special inspection records in CAMS if the automated data transfer process by MOF PS&D and DBM fails. An ADR must be completed prior to first flight after acceptance inspection. AMU PS&D will make appropriate entries in the MIS aircraft automated history for all aircraft transfers detailing the date, current operating time, location, unit, and a general synopsis of worked performed or reason for transfer.

15.15.4. (Added) Procedures for AGE Transfer. In addition to the inspection requirements in TOs 00-20-1, and 35-1-4, Quality Assurance may perform an assessment on each AGE item. This requirement may be waived with prior agreement between gaining and losing units. The inspection includes a complete records check. When the capability exists, ensure all discrepancies are corrected prior to equipment transfer. Annotate in equipment forms any discrepancy not corrected due to lack of parts.

16.1.6. Monitors overall load crew status and advises the MXG/CC when the number of fully certified load crews falls below the UCML/TTML minimum. If this occurs and cannot be corrected within 30 days, the following information is sent by secure message, through the MXG/CC, to the PACAF 2W1XX functional manager (NOTE: All 2W1X1s working outside their respective workcenter or DAFSC will be qualified/certified if possible to fill load crew shortfalls before sending a message to PACAF.

16.1.14. Based on unit taskings, designates the number of load crews, other than the LSC and lead crews, which are certified on support or limited use munitions. All other crews will receive CFL training on conventional SM’s. WWM’s will determine CFL training requirements on LMs.

16.1.25. Also provide monthly weapons release and gun reliability rates**.**

16.2.1. The key to successful combat/test/training operations is trained load crews proficient at generating aircraft configured to support combat and contingency plans. Units will maintain at least the minimum number of required certified load crews (as specified on the UCML/TTML).

16.8.3. Initial support munitions (SM)/limited use munitions (LM) training may be accomplished concurrently with initial primary munitions (PM) training and certification, but will be accomplished within 30 days of completion of initial training/certification. When a new PM, SM or LM is designated on the UCML/TTML, LSC and lead crews are certified within 30 days after receipt of training items. Other crews will receive CFL training as applicable.

16.11.3. Competent Familiarity Loading (CFL). The loading of a munition which ensures a satisfactory fundamental knowledge of the loading operation. The performance of CFLs sets a basic level of proficiency in order to make future certification easier. Evaluation criteria in this chapter does not apply to CFLs. CFLs are accomplished annually and are not a substitution for certification.

16.11.6. Limited Use Munition (LM). May include, but is not limited to, munitions used by a unit for firepower demonstrations, test, aircrew training or like operations. LMs may include munitions which may be used in a war or a contingency. LMs are designated on the UCML/TTML. WWM determines the number of crews (other than LSC/SLC) to be certified.

16.11.11. Support Munition (SM). A munition which may be used in support of contingency plans or directives and is designated on the UCML/TTML. WWM determines the number of crews (other than LSC/SLC) to be certified.

16.19.2. Full scale inert/practice bombs (i.e. BDU-50). If load crew personnel are certified on a munition, they are considered qualified on its inert version. In the event the live version is a SM or LM and requires only an annual CFL, then load crew personnel require annual training on the inert version and it will also be tracked as a qualification.

18.1.3.3. (Added) Helicopter FCCs normally accompany the aircraft on cross-country sorties and on depot induction and pickup flights.

18.1.3.4. (Added) FCC normally accompanies airlift aircraft (C-130, KC-135, C-40, C-17, etc) on off station sorties.

18.1.6.3.1. (Added) HQ PACAF/LGMFA acts as the program managers for the PACAF FCC program.

18.2. A separate SCR code is not required to identify an individual as a “production inspector.” For condition tags, a single SCR code may be used to identify multiple condition tags, provided each specific condition tag the individual is authorized is listed individually in the SCR code narrative. For NRTS codes, a single SCR code may be used to identify multiple NRTS codes, provided each specific NRTS code the individual is authorized is listed individually in the SCR code narrative. Each condition tag and NRTS code may also be given an individual SCR code. The WSS SCR will be reviewed quarterly by the WWM. Refer to AFI 21-101, **Table 18.1.** for additional SCR requirements and specific procedures. Each AMU/flight will have a separate SCR, approved by either MS/SUPT. Maintenance Supervision will then forward the revised SCRs to UTM for updating in CAMS. Ensures a current copy of the appropriate AMU/Flight’s SCRs are taken on all deployments.

18.2.2. Civilian personnel may be approved and/or certified to sign-off red X write-ups based on their experience and technical expertise regardless of their assigned duty skill level position.

18.2.4. The work center supervisor ensures the individual is qualified to perform SCR tasks by reviewing appropriate training documentation and experience on the assigned MDS. After thorough review, the work center supervisor places his/her signature, duty title, and date in the blocks printed on the SCR and forwards the SCR to the maintenance supervision for final review, authentication and approval. The maintenance supervision approves the individual for addition to the SCR. The squadron training manager loads the SCR data to CAMS. Retain the form used to add/remove personnel to the SCR until CAMS loading is verified. Use the AF Form 2426 to add/remove personnel to the SCR. Units may develop a local form to add/remove individuals to the SCR.

18.2.6. (Added) When maintenance services are contracted, the contract functional area chief's (FAC) appointed government technical representative will review the SCR qualification criteria, and the administrative contracting officer (ACO) will be the government’s approval authority for additions to the SCR.

18.3.2. (Added) Consult with lead technicians when operating instructions are reviewed or required to be developed, when positions are being formulated on supportability concerns, and when major TO re-writes are announced in the lead technician's functional area.

18.6.1. Units will develop procedures to this section in order to cover specific local unit responsibilities.

18.6.2.2.1. Category 1 Hangar Queen: an aircraft that has not flown for 30 or more consecutive days but less than 45 consecutive days (Day 30-Day 44).

18.6.2.2.2. Category 2 Hangar Queen: an aircraft that has not flown for 45 or more consecutive days but less than 60 consecutive days (Day 45-Day 59).

18.6.2.2.3. Category 3 Hangar Queen: an aircraft that has not flown for 60 or more consecutive days (Day 60 and above).

18.6.6. An Operational Check Flight (OCF) is mandatory for Category 3 hangar queen aircraft prior to release from hangar queen status. The need to conduct a full FCF for category 3 hangar queen aircraft or an OCF for Category 1 or 2 hangar queen aircraft will be evaluated based on the type of maintenance and magnitude of cannibalizations performed.

18.6.8. (Added) Exceptions.

18.6.8.1. (Added) RC-135 and U-2 aircraft are exempt from hangar queen reporting since status reporting of all reconnaissance aircraft is accomplished daily via OPREP 1-C reports.

18.6.8.2. (Added) Attrition reserve aircraft in “PR” possession code are exempt from hangar queen reporting.

18.6.8.3. (Added) Aircraft permanently assigned and possessed in TX code or with a “G” prefix are exempt from hangar queen reporting.

18.6.8.4. (Added) Aircraft in possession codes which indicate a status beyond local repair capability (BU, DJ, DK, DM DO, DR, etc.) are excluded from hangar queen reporting but are not excluded from local hangar queen management procedures.

18.6.8.5. (Added) Units are exempt from hangar queen reporting for the initial 10 duty days (not to include directed mandatory safety days) after regaining possession of the aircraft from a possession code which indicates a status beyond local repair capability (BU, DJ, DK, DM DO, DR, etc.)

18.6.8.6. (Added) Aircraft regained from depot possession, which have not flown for 30 consecutive days and fall within the ten day grace period are still locally managed as hangar queens.

18.6.8.7. (Added) Helicopters undergoing a 500-hour periodic inspection (PE) will not accumulate time toward hangar queen reporting during the inspection. Upon completion of the PE and signing off, the unit has 10 working days to fly the aircraft. If the helicopter has not flown by day 11, all no-fly time will count toward hangar queen reporting. If the helicopter is sent directly into refurbishment after the PE is signed off, the 10-day window will start when the refurbishment is signed off.

18.6.9. (Added) Category Responsibilities. AMUs will comply with the following:

18.6.9.1. (Added) Category 1 responsibilities:

18.6.9.1.1. (Added) Ensure in-depth Quality Assurance involvement.

18.6.9.1.2. (Added) Ensure strict management, control, and documentation of all cannibalizations. The Deputy MXG/CC (or higher) is the approval authority for cannibalization of Hangar Queen aircraft. Cannibalization authorization responsibility will not be delegated below the Deputy MXG/CC level.

18.6.9.1.3. (Added) Ensure proper supervision, security, and safety for accomplishment of all maintenance actions. Expediters will closely monitor all aircraft maintenance and tracks parts requirements on the expediter board.

18.6.9.1.4. (Added) Comply with inspection and maintenance actions required for aircraft that do not fly for 30 or more consecutive days and become Category 1 Hangar Queen aircraft. For planning purposes, determine inspection and maintenance actions required for aircraft that do not fly for 45 or more consecutive days and become Category 2 Hangar Queen aircraft. Refer to T.O. 00-20-100-20-1, for calendar inspection criteria.

18.6.9.1.5. (Added) Report the aircraft as a hangar queen in the applicable PACAF metric-reporting program (i.e. 9302, REDCAP).

18.6.9.2. (Added) Category 2 responsibilities:

18.6.9.2.1. (Added) Comply with all Category 1 requirements, additionally:

18.6.9.2.2. (Added) Comply with inspection and maintenance actions required for aircraft that do not fly for 45 or more consecutive days and become Category 2 Hangar Queen aircraft. For planning purposes, determine inspection and maintenance actions required for aircraft that do not fly for 60 or more consecutive days and become Category 3 Hangar Queen aircraft. Refer to T. O. 00-20-100-20-1, for calendar inspection criteria. Determine the feasibility of cannibalizing parts to return the aircraft to flying status prior to Day 60. Make every reasonable effort to fly the aircraft prior to Day 60 in order to avoid additional maintenance requirements and ensure the aircraft remains healthy and does not remain inoperative for an extended period IAW paragraph **18.6.1.** If all required parts are feasible cannibalizations, then consider cannibalizing all parts needed to return the aircraft to airworthy status. If a required part is an unfeasible cannibalization, then the MXG/CC will determine if other required parts should be cannibalized. IAW paragraph **18.3.2. (Added)**, continue to report the aircraft as a hangar queen to PACAF.

18.6.9.2.3. (Added) Cease all cannibalizations from the Hangar Queen aircraft and make the Hangar Queen aircraft a priority to rebuild.

18.6.9.3. (Added) Category 3 responsibilities:

18.6.9.3.1. (Added) Comply with all Category 1 and 2 requirements, additionally:

18.6.9.3.2. (Added) Determine the feasibility of cannibalizing parts to return the aircraft to flying status. In order to avoid additional maintenance requirements and ensure the aircraft remains healthy and does

not remain inoperative for an extended period IAW paragraph **18.6.1.**, if all required parts are feasible cannibalizations, then cannibalize all parts needed to return the aircraft to airworthy status. If a required part is an unfeasible cannibalization, then the MXG/CC will determine if other required parts should be cannibalized.

18.6.9.3.3. (Added) Advise PACAF LG of any part required to return the aircraft to FMC status that is on order and not a feasible CANN.

18.6.10. (Added) Reporting.

18.6.10.1. (Added) Hangar Queen reporting messages are required for category 2 and 3 hangar queen NLT the day after the aircraft enters the Hangar Queen category. MOC provides hangar queen reports to PACAF LG appropriate weapons system functional manager via DMS message.

18.6.10.2. (Added) Subject of the message, with appropriate aircraft tail number information, will be: HANGAR QUEEN STATUS AIRCRAFT XX-XXXX.

18.6.10.3. (Added) Include the following statement, with appropriate information, in paragraph 1 of the message: “Per AFI 21-101, we are informing you that one of our X-XX aircraft (tail number XX-XXXX) entered hangar queen status, category X, as of XXXX hours (local time), (calendar date), (Julian date).”

18.6.10.4. (Added) Include the following information in the message:

18.6.10.4.1. (Added) Aircraft MDS.

18.6.10.4.2. (Added) Aircraft tail number.

18.6.10.4.3. (Added) Owning unit.

18.6.10.4.4. (Added) Date last flown.

18.6.10.4.5. (Added) Reason for hangar queen.

18.6.10.4.6. (Added) Status.

18.6.10.4.7. (Added) Pacing action.

18.6.10.4.8. (Added) Parts required.

18.6.10.4.9. (Added) Estimated fly date.

18.6.10.4.10. (Added) Include the following Total Not Mission Capable Supply (TNMCS) information also:

18.6.10.4.10.1. (Added) EDD(s).

18.6.10.4.10.2. (Added) WUC(s).

18.6.10.4.10.3. (Added) NSN(s).

18.6.10.4.10.4. (Added) Document Number.

18.6.10.4.10.5. (Added) Requisition Number.

18.6.10.4.10.6. (Added) Off base requisition(s).

18.6.10.4.11. (Added) Identify any assistance required from PACAF LG.

18.6.10.4.12. (Added) A point of contact with telephone number.

18.6.10.4.13. (Added) A plan for recovery.

18.6.10.5. (Added) Emergency status and precedence category for this report is C2. Continue reporting during emergency conditions, normal precedence. Submit data requirements in this category as prescribed, or as soon as possible after submission of priority reports. Submit by non-electronic means, if possible. Continue normal reporting under emergency conditions and during minimize.

18.6.11. (Added) Records Management.

18.6.11.1. (Added) The MOC will notify AMU PS&D when an aircraft is designated as a hangar queen. The AMU PS&D will freeze all aircraft, engine, and decentralized historical record files. AMU PS&D notifies EM and sections with decentralized records when an aircraft enters and releases from hangar queen status. AMU PS&D, EM, and each section with decentralized records will conspicuously mark the appropriate historical records, identify the aircraft, engine(s) and components as a hangar queen, and ensure the records disposition are frozen. The hangar queen marking will include the date last flown, the hangar queen release date, and the date records may be unfrozen. Additions, changes and corrections to the records continue as normal; however, records are not destroyed and remain frozen until 30 days after the aircraft has flown.

18.6.11.2. (Added) Accomplish a manual records check of each hangar queen aircraft to ensure accurate documentation of maintenance requirements, parts requirements and cannibalization actions reflect the true status of the aircraft. All AFTO Forms 781 series maintenance forms initiated since the last flight are reviewed, with QA as the final review. As a minimum, accomplish records checks:

18.6.11.2.1. (Added) When the aircraft is initially designated a hangar queen.

18.6.11.2.2. (Added) As a minimum, every 14 days.

18.6.11.2.3. (Added) Before the first flight.

18.7. CAF units are no longer required to maintain an ABDR training program. Combat Logistics Support (CLS) Teams from AFMC are chartered by the Time Phased Force Deployment Document (TPFDD) to deploy and provide manpower to perform ABDR. The CLSS team chief will report to the MXG/CC upon arrival.

18.7.1.4.1.1. (Added) HQ PACAF/LGMFB acts as the program manager for the PACAF ABDR program.

18.8. PACAF units must contact HQ PACAF prior to entering any Operational Aircraft Cross-Servicing Requirements (OACSR) or conducting any Aircraft Cross-Servicing (ACS) operations. A complete process (modeled after the ACE ACS program) must be approved by HQ PACAF, implemented and followed prior to PACAF units conducting cross-servicing operations.

18.9.3. All 5-skill level technicians performing intake/exhaust inspections require a waiver for “Red X” authority. Other AFSCs authorized for engine run may also be authorized to perform inlet/exhaust inspections. **NOTE:** Procedures apply to on-equipment maintenance performed on either installed or removed engines. (See TO 00-20-1 for documentation guidance). Personnel not certified Red-X by primary AFSC, but have been trained and certified to perform intake and exhaust inspections, will be certified Red-X, limited per MDS, for intake & exhaust inspection. Prerequisite: SrA or higher (or civilian equivalent), minimum 5-skill level in CAFS, with a minimum of 6 months time on weapon system. Also see **Table 18.2.(Added)**

18.9.4.1. MTF/TD will develop course codes in CAMS to track the following:

18.9.4.1.1. (Added) Formal training, engine inlet/exhaust inspection course.

18.9.4.1.2. (Added) Initial engine inlet/exhaust inspection certification.

18.9.4.1.3. (Added) Annual engine inlet/exhaust inspection certification.

18.9.4.1.4. (Added) Engine inlet/exhaust certifier.

18.11.4. Certifying officials will be designated in writing by the MXG/CC.

18.11.6.3. PACAF MAF assets will follow same criteria as CAF assets as established in AFI 21-101 para 18.11.7.

18.11.6.3.4. (Added) Borescope Certifier.

18.11.7.1. (Added) All borescope certified users will perform one flexible inspection every 120 days to maintain proficiency.

18.12.2. Personnel not certified Red-X by primary AFSC, but have been trained and certified to perform blade blending, will be certified Red-X, limited by TMS, for blade blending. Prerequisite: Minimum 5-skill level, minimum 6 months time on weapon system. Also see **Table 18.1.**, (Note 2).

18.12.4.5. (Added) Blade Blend Certifier.

18.12.5. Certifying officials will be designated in writing by the MXG/CC.

18.12.6. Also, includes F-22 personnel.

18.12.8. Also, includes F-22 personnel. For re-certification, F-15, F-16, F-22 personnel will attend an annual blade blending inspection course and be recertified by a certifying official IAW paragraph 18.12.7.

18.13.1. Airlift, tankers, bombers, U-2, special mission -135's, E-3, E-4, E-8, RQ-1 and helicopters are exempt from EOR requirements. Units publish a local checklist using AFTO Form 26, Aircraft Inspection Work Card, for the assigned aircraft when an aircraft EOR checklist is not published (AFI 21-101, TO 00-5-1, and TO 00-20-1/-2/-5).

18.13.2. The area will be marked by appropriate taxiway markings for marshaling and parking for fighter aircraft. Inspect all items listed in technical orders or locally developed checklists. CAUTION: Beware of inlet and exhaust areas. Keep clear of movable surfaces.

18.13.6. Units determine exact team composition and publish EOR procedures.

18.13.6.1. (Added) For arm/de-arm operations: maintain verbal contact with the pilot if the aircraft is equipped with a ground intercom system.

18.13.8. Pilots debrief discrepancies discovered during the EOR inspections and ensure the discrepancies are entered in AFTO Forms 781A, Maintenance Discrepancy and Work Document. If discrepancies are corrected without an abort, technicians account for actions in CAMS IAW AFCSM 21-563.

18.13.9. (Added) Minimum Equipment. Units establish procedures to manage the following equipment:

18.13.9.1. (Added) Reflective vest (team chief).

18.13.9.1.1. (Added) Set of marshaling wands.

18.13.9.1.2. (Added) Wheel chocks.

18.13.9.1.3. (Added) Comm. headset and ground cord (if aircraft is equipped for intercom).

18.13.9.1.4. (Added) Set of down locks/safety pins.

18.13.9.1.5. (Added) EOR checklist.

18.13.9.1.6. (Added) Fire extinguisher (IAW EOR checklist).

18.13.9.2. (Added) Minimum individual equipment for team members:

18.13.9.2.1. (Added) Ear protection.

18.13.9.2.2. (Added) Flashlight.

18.13.9.2.3. (Added) Reflective vest or belt for after sunset operations.

18.13.10. (Added) If the aircraft is serviceable, give affirmative (all clear or "OK") signal to pilot. If the aircraft is unserviceable, inform the pilot of the nature of the discrepancy. The pilot and maintenance supervisors decide to repair aircraft in place or return to parking for maintenance.

18.14.1. Aircraft installed thermal and flash divider curtains and radiation barriers are synonymous, and for the purpose of this instruction are referred to as aircraft thermal protective devices and shields.

18.15.1. Maintenance of assigned ground training aircraft requires close supervision and management. All personnel associated with maintaining unit assigned trainers must be familiar with and enforce established procedures.

18.15.2.1. Determine who will manage, requisition required parts for, and maintain each training aircraft.

18.15.2.2.10.6. Assign each training aircraft a designated crew chief. The designated crew chief will:

18.15.2.2.10.6.1. (Added) Ensure their aircraft has a current set of AFTO Forms 781-series maintained IAW TOs 00-20-1 and 00-20-100-20-1.

18.15.2.2.10.6.2. (Added) Perform a thorough forms review a minimum of every 30 days.

18.15.2.2.10.6.3. (Added) Ensure their aircraft is scheduled for and undergoes preventive maintenance requirements established by the MXG/CC.

18.15.2.2.10.6.4. (Added) Monitor the status of removed parts and parts on order.

18.15.2.2.10.6.5. (Added) Maintain required -21 equipment.

18.15.2.2.11. (Added) Ensure cannibalization actions are authorized by MXG/CC.

18.15.2.2.11.1. (Added) Ensure cannibalized parts have completed a historical review to ensure all applicable TCTOs/modifications have been complied with.

18.15.2.2.12. (Added) Ensure QA performs a non-rated management inspection on ground trainers semi-annually. Inspection will include, as a minimum, AFTO Form 781-series review, a walk around and thru flight inspection. Submit report to the MXG/CC.

18.15.2.2.13. (Added) Establish written minimum operational systems guidelines and general maintenance requirements (wash interval, paint interval, etc.) for group training aircraft.

18.17.1. U-2 combat support coded (CA) aircraft certified for hot/aircraft-to-aircraft refueling develop and maintain the capability to quickly and safely hot refuel those assigned aircraft.

18.17.4.2. The MSG/CC (and MXG/CC in coordination with the MSG/CC) may appoint additional members to the site certification team as necessary. Consider appointing a member from the affected squadrons' operations.

18.17.5.5. (Added) Forward the following items to the PACAF/LGMM. PACAF/LGMM will coordinate the items for approval through the Hot Pit Program Manager and the appropriate functional managers, then forward to the PACAF/LGM for final approval. Administratively, para **18.17.5.5.1. (Added)** below would be an official memo with items from paras **18.17.5.5.2. (Added)** through **18.17.5.5.9. (Added)** below formatted as separate attachments to the memo.

18.17.5.5.1. (Added) Address a Certification Approval Request to HQ PACAF/LGM from the Wing Commander.

18.17.5.5.2. (Added) Address that the certification was completed IAW TO 00-25-172 and IAW AFI 21-101, para **18.17.4.2.**

18.17.5.5.3. (Added) Address requirement for approval of all affected MAJCOMs IAW TO 00-25-172, para 7-7.

18.17.5.5.4. (Added) List the certification team members IAW AFI 21-101, para **18.17.4.2.**

18.17.5.5.5. (Added) Address the existence, status, and PACAF approval of checklists IAW AFI 21-101, para 18.17.7.

18.17.5.5.6. (Added) Address that the unit published procedures to supplement AFI 21-101 and IAW AFI 21-101, para 18.17.8.

18.17.5.5.7. (Added) Outline local requirements and additional precautions as necessary IAW AFI 21-101, para 18.17.8.

18.17.5.5.8. (Added) Address each question listed in AFI 21-101, para 18.17.10 individually.

18.17.5.5.9. (Added) Attach a copy of the new consolidated hot pit site certification listing IAW AFI 21-101, para 18.17.5. The listing will address each item detailed in AFI 21-101, para 18.17.6 individually.

18.17.5.6. (Added) The PACAF Hot Pit Program Manager will maintain a copy of the items listed in para **18.17.5.5. (Added)** on file.

18.17.7.1. Forward the checklist to the PACAF Maintenance Policies and Requirements Branch. The Policies and Requirements Branch will coordinate the checklist for approval through the Hot Pit Program Manager and the appropriate functional managers, then forward to the Maintenance Engineering Division for final approval.

18.17.16. Training and certification requirements for hot refuel team members are outlined in **Table 18.2.(Added)**

18.17.16.1. (Added) Personnel are decertified if they miss any semi-annual proficiency requirement or annual special requirement. Personnel can also be decertified by any hot/aircraft-to-aircraft refueling supervisor, squadron/immediate supervisor, or QA any time one of these individuals sees an unsafe act or demonstrated lack of proficiency on the part of any hot/aircraft-to-aircraft refueling team member.

18.17.16.2. (Added) Decertified personnel must obtain re-certification within 30 days of de-certification date or repeat Phases 1, 2, and 3 of training. MXG/CC may waive time restrictions, not to exceed 90 days, if local conditions do not allow timely re-certification.

18.19. The four basic types of PASs are depicted in TO 00-25-172, para 4.10., Fig. 4-1.)

18.19.6. During daily aircraft maintenance, aircraft entry doors remain open unless inclement weather, safety concerns, or mission requirements, as determined by Maintenance Supervision, dictate partial or full closure of the doors IAW this paragraph.

18.19.6.5. (Added) During normal peacetime refueling operations in the PAS, aircraft entry doors will remain open to allow easy access for fire department vehicles, unless inclement weather, safety concerns, or mission requirements, as determined by Maintenance Supervision, dictate partial or full closure of the doors IAW para **18.19.6.** above.

18.19.11.1. Wing Weapons Manager will assist in preparation of the wing guidance governing storage of munitions inside a PAS.

18.19.18. (Added) Sortie Generating Consumables. This category of enhancements includes items that are used during sortie generation. These enhancements include munitions pre-positioning and external fuel tank storage.

18.20.3.1. (Added) AFSC 2W1XX related Red Balls require verbal contact to be established with the pilot if the aircraft is equipped with a ground intercom system.

18.21.2. The intent and benefit of the Self Inspection Program is to provide commanders with a tool for internal assessment of unit health and to prepare for and complement external inspections and assessments. Self-inspections programs will be structured to provide continuous and revolving assessments of the unit providing a complete annual inspection. Units will maintain copies of applicable self-inspection reports for a minimum of two years and will present the reports to IG, MSET, SAV and other outside agencies when conducting official inspections and audits. Units will reference PACAF Dir 90-221 when developing their self-inspection program. Checklists in PACAF Dir 90-221 are not, and are not intended to be, all-inclusive. Units are directed to develop and tailor their self-inspection programs so that each is uniquely specific to that unit's structure and mission. IAW AFI 90-201, the self-inspection program will include mechanisms that ensure adequate coverage of the organization's mission, resources, training, and people programs.

18.22.1. When tasked by PACAF, units will support Ramp inspection program. As of publication of this supplement, no PACAF unit is tasked for RAMP. When required, units will be tasked via formal channels and subsequent updates of this supplement.

18.22.1.1. (Added) A preflight safety inspection of each aircraft conducted at anytime during the operation of, but not more than 72 hours before, each internationally scheduled charter mission (for the air transportation of members of the Armed Forces) departing the United States.

18.22.1.2. (Added) A preflight safety inspection of each aircraft used for domestic charter missions conducted to the greatest extent practical.

18.23. It is the direct responsibility of all personnel to ensure FOD prevention is practiced during all aspects of local and deployed maintenance, flight operations, and supporting functions. The purpose of the FOD Prevention Program is to reduce the FOD hazard to aerospace equipment and aircraft.

18.23.2.1. Caution: This will also include around engine intakes, aircraft intakes, run screens, and bellmouths.

18.23.2.3. This is not required on engine shutdowns for "red ball" maintenance.

18.23.2.5. Follow specific T.O. guidance. Availability of a second person helps when metal zippers are required to be covered with tape.

18.23.2.10. Remove Restricted Area Badge within 25 feet of an operating jet engine. Ensure line badge clips are secured to prevent loss. For those individuals using the cord/rope for security, pass the chord/ rope through the clip eyelet.

18.23.2.12. Security Police, while performing official duties, may wear the beret with insignia attached, however, when they are within 50 feet of an operating aircraft their berets must be removed and secured.

18.23.2.13. Aircraft transiting other bases will have intakes inspected or receive a visual intake/exhaust inspection. The aircraft commander will ensure proper documentation in the AFTO Form 781A has been completed prior to engine start. When FOD is discovered on transient aircraft or a "queen bee"/engine regional repair center (ERRC) engine, the host FOD manager will notify the owning organization within 24 hours.

18.23.2.13.1. (Added) Aircraft transiting other bases will receive a visual intake/exhaust inspection, normally performed by transient alert personnel. The visual intake/exhaust inspection may be accomplished by any certified intake and exhaust qualified inspector for any aircraft MDS. If no damage is noted during the visual inspection, annotate the aircraft AFTO Form 781A stating, "INFO NOTE: Visual intake/ exhaust inspection performed with no visual defects noted". If a defect is noted, further inspections are required by a qualified technician.

18.23.2.15. Maintenance personnel will enter a Red X in the AFTO Form 781A when an item is lost and initiate lost tool procedures. If the item is not found, the weapon system will be impounded and remain so until every effort has been made to retrieve the lost item. When possible, units should use FO preventative cables with swedges, or similar items, in lieu of snap rings.

18.23.2.18. Structural maintenance shops will develop a local sheet metal instruction checklist for repair or replacement of rivets in aircraft intakes. All parts and pieces installed and removed from the aircraft will be documented and verified by a 7-level. The checklist will be completed on the job site and turned into QA within 24 hours of repair completion. A copy of the checklist will be maintained by the repair shop for a minimum of one (1) year. Structural maintenance technicians are not required to meet the training requirements of paragraph 18.9.

18.23.2.20. (Added) Vehicle operators will perform a visual FOD inspection on all equipment and tires prior to entering flight line areas.

18.23.2.21. (Added) Layout Dye will be controlled to ensure only qualified 7-level or above can obtain for marking damaged fan/compressor blades or marking dented tubing. Sections that utilize the dye will maintain a current list of authorized/qualified personnel to sign out dye. **NOTE:** There is no requirement to maintain a list of personnel who use layout dye other than for marking engine fan/compressor blades or engine tubing.

18.23.2.22. (Added) Establish and tailor, rivet replacement procedures for local operation of assigned weapons systems. Include them as part of the FOD orientation/familiarization for personnel working in these areas. Include work order residue control procedures for all maintenance performed in and around intake areas.

18.23.2.23. (Added) When an item is lost or suspected lost within the immediate vicinity, in or around an aircraft, the aircraft will be immediately grounded and lost tool checklist procedures will be initiated IAW this instruction. If the item is not found the aircraft will be impounded.

18.23.3.1. Fill screw holes with RTV sealant to prevent screws from backing out.

18.23.4. For cold weather locations, FOD removal tools may be attached to large, highly visible devices, such as “remove before flight” streamers, and will be specifically identified to the vehicle.

18.23.7.1. The wing CV will appoint a FOD manager who will be assigned on a full time basis, under the direct supervision of the wing CV. The wing CV will assign duties and responsibilities to the FOD manager to ensure an effective FOD prevention program is enforced by all personnel having access to the flight line and maintenance areas. The wing CV will ensure a FOD monitor is appointed and FOD prevention programs are enforced during deployed operation. The wing CV is the approving authority for FOD manager additional duties. FOD managers are encouraged to attend the jet engine mishap investigation course. The tenant commander will be appointed as the unit FOD Prevention Program Manager for units detached from their parent wing.

18.23.7.2.5. To include geographically separated units.

18.23.7.2.6. (Added) Unit commanders are responsible to ensure all maintenance, operations, and base support personnel who work in, around, or drive through operational areas follow all FOD instructions and are familiar with local FO hazards.

18.23.7.2.7. (Added) Budget for and allocate funds to support the wing's program.

18.23.7.2.8. (Added) Ensure engine inlet run-up screens and antipersonnel guards are used IAW applicable technical data and/or operating instructions.

18.23.8.4. FOD Prevention Training will be given to all aircraft/munitions maintenance personnel. Additionally, FOD awareness training should also be incorporated into flight line driving authorization procedures.

18.23.8.6. (Added) Ensure evaluated or repaired FOD is documented in CEMS automated history (E407) or AFTO Form 95, IAW TO 00-20-100-20-1.

18.23.8.7. (Added) Recurring FOD prevention briefings will be given at the discretion of FOD prevention manager.

18.23.8.8. (Added) Units should establish a local FOD prevention awareness award and incentive programs.

18.23.8.9. (Added) Ensure the FOD prevention program is reviewed/inspected during visits by maintenance assistance teams, IG visits, etc. Analyze FOD-related mishap reports and other data for trends that identify areas for management action.

18.23.8.10. (Added) Will develop a deployable FOD program and train selected deployable FOD Monitors to ensure the FOD program continues successfully at deployed locations.

18.23.9.1. MOC will notify the Wing FOD manager. Also consider impounding all engines on test cell sustaining FOD damage from an unknown cause. The exception is nicked blades that are blendable and within TO limits.

18.23.9.5. PACAF will assign accountability in those instances where conflict/peculiar circumstances occur.

18.23.9.6. All FOD incidents exceeding $20K will be identified to PACAF, using the command standard format, and the local base safety office. FOD incidents under $20K will be tracked locally and reviewed by the wing CV and FOD manager every 6 month for trends, these incidents only require phone fax or e-mail notification.

18.23.9.7.1. Wing rates are computed monthly. Each wing FOD manager will submit quarterly (or monthly if exceeding FOD standard of 3.0). Units will provide the following information in a quarterly FOD summary NLT than the 10th calendar day after the quarter: number and total of preventable/chargeable FOD greater than $20K incidents and number and cost of non-preventable FOD incidents. Furthermore, units will report total aircraft flying hours by MDS quarter and cause of each FOD related incident.

18.23.9.7.1.1. (Added) Number of Preventable and Non-Preventable FODs (damage exceeding $20K).

18.23.9.7.1.2. (Added) Causes of Preventable and Non-Preventable FODs.

18.23.9.7.1.3. (Added) Cumulative cost of Preventable and Non-Preventable FODs.

18.23.9.7.1.4. (Added) MDS flying hours.

18.23.9.7.1.5. (Added) Calculated unit FOD rate by MDS and current cumulative fiscal year FOD rate.

18.23.9.8. (Added) FOD accountability will be in accordance with the following guidance:

18.23.9.8.1. (Added) When transient/deployed aircraft incur FOD, the host unit will conduct the investigation and notify the owning organization within 72 hours. If the owning organization's maintainers are deployed with the aircraft and the FOD is a direct result of transient/deployed unit negligence, the owning organization will conduct the investigation. PACAF will assign accountability in those instances where conflict/peculiar circumstances occur. During deployed operations where mixed unit crews are flying or maintaining aircraft, FOD incidents will be charged to unit receiving flying hour credit.

18.23.9.8.2. (Added) The owning organization is responsible for FOD incidents on transient aircraft/engines when one of the following conditions applies:

18.23.9.8.2.1. (Added) FOD discovered upon arrival at a transient base with no intermediate stops or prior to any engine run.

18.23.9.8.2.2. (Added) FOD found during initial tear down on "Queen Bee/ERRC" engines.

18.23.9.8.2.3. (Added) Aircraft is maintained on transient/TDY base by owning organization maintenance personnel.

18.23.9.9. (Added) Parent wings are ultimately responsible for the FOD prevention program of detachments. Parent wings will collectively track FOD rates.

18.23.9.10. (Added) The preventable FOD standard is 3.0. **NOTE:** Tenant units will use their parent unit FOD standard.

18.23.9.11. (Added) Locally developed FOD mishap investigation checklists may be used to enhance FOD investigations.

18.23.9.12. (Added) The wing safety office in coordination with the wing FOD manager will submit mishap reports IAW AFI 91-204.

18.23.9.13. (Added) Each unit will establish their own FOD control number(s) as follows: wing designator, fiscal year, and a three-digit number; for example, 48FW02001.

18.23.9.14. (Added) FOD discovered by transient alert facilities or by depot and contractor facilities during acceptance inspections will be charged to the base from which the aircraft last departed if a FOD inspection was not accomplished/documented. The owning organization will be charged if there were no intermediate stops.

18.23.9.15. (Added) The following actions will be performed on F-15 aircraft sustaining engine FOD caused by an unknown source:

18.23.9.15.1. (Added) Extend the vari-ramps, thoroughly inspect all accessible components and areas within the vari-ramp cavity, close the vari-ramps, x-ray the vari-ramps and lower louver areas IAW applicable TO, compare these x-rays with previous x-rays of the aircraft to determine movement or missing items.

18.23.9.16. (Added) When FOD is suspected on an aircraft engine accomplish a borescope inspection IAW applicable TO procedures. Additionally, perform a borescope when any of the following occur:

18.23.9.16.1. (Added) When engines are determined to have FOD damage that requires blending by applicable technical data.

18.23.9.16.2. (Added) When hardware/material forward of the engine inlet is found missing.

18.23.9.16.3. (Added) When a birdstrike has occurred forward of, or near the aircraft engine intake.

18.23.9.17. (Added) For Class A/B/C/D and other mishaps, investigation personnel must coordinate with the wing or base safety office to ensure the requirements of AFI 91-204 are met.

18.23.9.18. (Added) Wings will submit maintenance cross-tell alerts by message to HQ PACAF/LGM, and to all units with like MDSs for those incidents that have FOD potential for the fleet.

18.23.10.2. (Added) Meeting minutes will include as a minimum:

18.23.10.2.1. (Added) List of attendees and absentees. Attendees list will identify the wing FOD prevention manager and provide functional address symbol and duty phone number for all personnel agenda items:

18.23.10.2.2. (Added) All agenda items discussed during the meeting.

18.23.10.3. (Added) Junior FOD Committee (J-FOD) will be established along the guidelines similar to the FOD committee. It will be chaired by the FOD prevention officer/manager and oriented toward junior ranking personnel. Minutes will be recorded and distributed similar to the FOD committee meeting minutes. Channel the J-FOD committee's concerns and recommendations for improvements to the base FOD committee.

18.23.10.3.1. (Added) If junior grade individuals attend FOD Prevention Committee meetings, then Junior FOD committee is not required.

18.23.11. Dropped Object. Fasteners and other hardware will not be reported as FOD unless down stream damage occurs. Furthermore, any object dislodged by a foreign object, e.g., an IFR boom or a bird, is not considered a dropped object. Preventable dropped objects are defined as any item that was lost due to negligence during inspection or improper installation.

18.23.11.1.1. PACAF aircraft functional managers will act as OPR for all dropped object field inquires. The wing foreign object damage monitor will be designated as wing DOP monitor under the Vice Wing Commander. Each AMU will assign monitors to assist the wing DOP monitor. The GP/CCs will ensure all flight crews and assigned maintenance personnel are briefed on the DOP program.

18.23.11.2. Annotate DOP training in the appropriate training records or in CAMS. Training should include, but is not limited to, inspection, installation, removal, and repair procedures for aircraft panels, doors, access covers, cowlings, etc. Also, include in training the care of panel latches, fasteners, nut plates, and other locking devices. Security of hardware, particularly those causing a high incidence of

dropped objects, will be high interest items on flight crew walk-arounds. If possible, training should coincide with DCC training, ground safety training, flight line safety training, etc.

18.23.11.3.1. (Added) Install/adjust access panels, doors, cowling, and components using applicable technical data. Fastener torquing requirements will be completed with tools or gauges as specified in applicable technical orders.

18.23.11.3.1.1. (Added) Aircraft form entries for panel and door removal and installation will be IAW TO 00-20-1 and local procedures. Local procedures will comply with the intent of the basic instruction and PACAF supplement.

18.23.11.3.1.2. (Added) Flight crews will ensure the security of all hardware during aircraft preflight and post flight walk-arounds. Discrepancies will be immediately brought to the attention of the crew chief. In-flight dropped object incidents will be immediately brought to the attention of the wing DOP monitor.

18.23.11.4. Quality Assurance will investigate each dropped object incident.

18.23.11.5.1. Inform PACAF Aircraft Functional Managers of DOP incidents. When required, (Possible Media Interest), initial dropped object reporting will be IAW AFM 10-206 by local command post.

18.23.11.5.2.21. (Added) NSN.

18.23.11.5.4. (Added) Quarterly. The wing DOP monitor will report to the MDSA section all dropped objects, to include MDS, date of incident, noun, NSN, cost, specific cause, and action taken to prevent reoccurrence. This information will be presented the third month of each quarter (i.e. Oct, Nov and Dec data will be presented in Jan) using the appropriate PACAF form or indicator report. Additionally, this information will be forwarded to PACAF /LGM.

18.23.11.5.5. (Added) C-130 and C-135 aircraft units will use the following to report dropped objects to HQ AMC. The purpose is to consolidate fleet wide data for identification of problems and crossfeed information for all users.

18.23.11.5.5.1. (Added) Home Station. The MXG/CC will report all dropped objects for C-130 and C-135 aircraft through the wing DOP monitor to HQ AMC/LGM within 72 hours, regardless if the loss is reportable under AFI 91-204, *Investigating and Reporting US Air Force Mishaps*. Send information copies to appropriate numbered air force (NAF) logistics offices.

18.23.11.5.5.2. (Added) DOPs for C-130 and C-135 Aircraft Units. Submit by message. Report numbers should be the discovery location organization, year and month, followed by unit sequence number, i.e. (1 FW 9412 1 or 20FW 9501 1), in the subject line. Use the format in para **18.23.11.**

18.23.11.5.5.3. (Added) Monthly DOP Summary For C-130 and C-135 Aircraft Units. The home-station wing DOP monitor submits a summary (previous month) listing each dropped object and sequence number to HQ AMC/LGM by the fifth duty day of each month. Negative reports are required. Continue reporting precedence delayed. Submit data requirements as prescribed, but they may be delayed to allow the submission of higher precedence reports. Authorized for electrical transmission during periods of MINIMIZE.

18.24.1.3. (Added) Every unit will conduct a RWR/RTHW roll through test on 70 percent of possessed aircraft every 30 days. NOTE: HH-60 aircraft will perform functional check of self-protection system, countermeasures dispensing systems (CMDS) and AN/AAR-47 missile warning systems at the interval listed in 1H-60(H)G-6.

18.24.1.3.1. (Added) The unit RWR/RTHW program will include, as a minimum:

18.24.1.3.1.1. (Added) Pre-launch RWR/RTHW checks. NOTE: B-1, B-2, B-52, U-2 and C-130 aircraft are exempt during non-combat operations. However, flight crews of these aircraft are responsible for ensuring RWR systems are operationally checked while airborne and any discrepancies are debriefed and entered in aircraft forms.

18.24.1.3.1.2. (Added) Aircrew notification of check results before flight.

18.24.1.3.1.3. (Added) Standardized documentation of all check results in aircraft AFTO Forms 781-series.

18.24.1.3.1.4. (Added) Local record keeping of check results for each aircraft tested. Each AMU will conduct monthly checks and provide the results to the wing RWR/RTHW manager who will maintain these records for 1 year. Local record-keeping and tracking will include, as a minimum:

18.24.1.3.1.4.1. (Added) A list, by tail number, of check results (pass/fail) in the specified time period. List corrective actions for all failures.

18.24.1.4. (Added) Conduct an annual comprehensive test using the RFTLTS on all assigned F-16 aircraft. This requirement applies until superseded by inclusion of specific RFTLTS guidance in the appropriate aircraft –6 T.O.

18.26.1. MTF responsibilities also include the development of course codes, academic material, and written tests. All personnel identified for engine run qualification training will complete an engine run training program prior to certification as "Engine Run Certified," "Engine Run Certifying Official," "APU Run Certified", and “APU Run Certifying Official” on each MDS/engine Type Model series Modification (TMSM).

18.26.1.1. When training detachment (TD) courses are available, the MXG/CC may choose to utilize the TD to satisfy any or all training requirements in phases 1 and 2. However, phase 3 will be accomplished by unit personnel (e.g., MTF, AFETS/CETS, instructor pilots, etc). Classroom instructors need not be engine run certified personnel. Units may use AFETS/CETS personnel for this duty.

18.26.3. Certifying officials must meet proficiency requirements, take all required written tests, and undergo annual recertification.

18.26.5.1.1. Installation and removal of aircraft restraining devices (if applicable).

18.26.5.2. At least three starts are required to confirm individual capability to operate engines.

18.26.5.4. (Added) Test the student using a minimum 25 question test (do not use Phase 1 test). This test will be developed and controlled using the same criteria as the test developed for Phase 1. Failure to achieve a passing score requires additional training prior to re-testing. Use a new set of questions to retest. Failure during re-testing will result in member being ineligible for engine run certification for 90 days and member will also reaccomplish all phases of training prior to requalification. Accomplish at least two engine runs, engine start to engine shutdown, to ensure the individual is proficient and to confirm the adequacy of Phase 2 training. If available, a fully capable aircraft cockpit simulator, or certified engine run trainer with fault capabilities may be used for annual recertification and proficiency training. Failure to demonstrate proficiency during the practical evaluation requires additional training or decertification, based on certification official's determination of deficiencies. Individuals will be task evaluated by an authorized certifying official (other than the instructor who administered the course) and after successful completion of the task evaluation will be placed on the SCR.

18.26.5.5. (Added) The trainer will maintain visual contact with trainee or sit in right seat and monitor trainee running the aircraft. For B-52 aircraft, engine run trainer will occupy the left seat. Voice communication will be maintained via intercom system. For C-130 aircraft, the certifying official may occupy the flight engineers seat.

18.26.5.6. (Added) Units involved in training international students incorporate the requirements in AFI 11-218 and Joint Security Assistance Training (JSAT) Regulation in their special task certification and qualification training programs. These students receive the same engine run training as USAF personnel. However, engine runs involving international students are accomplished in two seat aircraft only with a USAF engine run certified person in the other seat. Qualify international students to run engines but do not issue engine run certification.

18.26.5.7. (Added) Phase 1 training may be waived for personnel previously certified at other units with the same MDS/engine combination. However, Phase 2 and Phase 3 requirements will still be met.

18.26.5.8. (Added) MTF will develop course codes in CAMS and place on SCR to track the following:

18.26.5.8.1. (Added) Initial engine run certification.

18.26.5.8.2. (Added) Annual engine run certification.

18.26.5.8.3. (Added) 90-day engine run proficiency requirement.

18.26.5.8.4. (Added) Engine Run Certifier.

18.26.6. Minimum two engine run evaluations by a certifier will constitute certification. Certifiers will evaluate and re-certify personnel annually. Prior to engine start, the aircraft operator and trim crew review all emergency procedures and critical engine limits.

18.26.6.1. (Added) Formal Training. MTF/Training Detachments (TD) will develop and manage training. As a minimum the course will include engine systems, engine parameters, engine trim parameters, emergency procedures, all applicable technical data to include trim box operation, calibration, pre and post trim procedures, and any local procedures/instructions.

18.26.6.2. (Added) Be a minimum of SrA, 2A6X1X, and have a minimum five-skill level. Group commander may waive qualified five-skill level personnel for critical manpower shortages. Group commander may designate contractors in writing to run aircraft engines.

18.26.6.3. (Added) Certifiers. The MXG/CC designates selected highly qualified 2A6X1X 7-level or above technicians (or civilian equivalent) and/or fully qualified AFETS personnel to perform as certifying officials.

18.26.6.4. (Added) The aircraft operator has primary responsibility for the overall safety of the trim operation because he/she is the only member of the trim team that has complete visibility of all aircraft systems.

18.26.6.5. (Added) The trim box operator is responsible for the trim procedure. They ensure the engine is trimmed to the correct parameters and verifies the trim targets with the aircraft operator during the trim operation.

18.26.6.6. (Added) MTF will develop course codes in CAMS and place on Special Certification Roster (SCR) to track the following:

18.26.6.6.1. (Added) Formal engine trim course.

18.26.6.6.2. (Added) Initial engine trim box operator certification. (F100-PW-100/200).

18.26.6.6.3. (Added) Annual engine trim box operator certification. (F100-PW-100/200).

18.26.6.6.4. (Added) 90-day engine trim box operator proficiency requirement. (F100-PW-100/200).

18.26.6.6.5. (Added) Engine Trim Box Certifier.

18.26.7. Individuals will be task evaluated by an authorized certifying official (other than the instructor who administered the course) and after successful completion of the task evaluation will be placed on the SCR.

18.26.10. All individuals who operate engines installed on aircraft, test stands or in hush houses must perform at least one engine start every 90 days to maintain proficiency. There are no proficiency requirements for operators qualified on the APU, GTC or APP. Individuals authorized to operate the trim box on F100 engines must perform at least one trim, utilizing the trim box, every 180 days to maintain proficiency. Work center supervisors ensure personnel who do not meet the above minimum requirements are decertified and entered into recertification training IAW AFI 21-101.

18.26.11. Maintenance personnel are not authorized to taxi aircraft.

18.26.13.1.1. Also includes AFETS/CETS representatives.

18.26.15. Engine run proficiency will include engine trim (if applicable), troubleshooting, leak checks, operational checks, and emergency procedures.

18.26.16.1.1. Functions include engine system operation.

18.26.16.1.7. Tests are developed by the test cell/small gas section chief or AFETS/CETS. The tests are controlled by the MTF. Test the student using a minimum 25 question test. This test will be developed and control using the same criteria as other test developed for use by the MTF. Failure during re-testing will result in member being ineligible for engine run certification for 90 days and member will also reaccomplish all phases of training prior to requalification.

18.26.16.3. Individuals will be task evaluated by an authorized certifying official (other than the instructor who administered the course) and after successful completion of the task evaluation will be placed on the SCR.

18.26.16.3.6. (Added) Include engine trim, troubleshooting, and leak check procedures.

18.26.16.3.7. (Added) Certified on fire control panel operations IAW paragraph 18.26.17 of this instruction.

18.26.16.4. Recertification consists of successful completion of the written test outlined in paragraph **18.26.16.1.7.** Individuals will be task evaluated by an authorized certifying official (other than the instructor who administered the course) and after successful completion of the task evaluation will be placed on the SCR Conduct annual recertification.

18.26.16.4.4. (Added) Test stand/engine preparation (including proper restraint).

18.26.16.5. To maintain proficiency, perform at least one engine run every 90 days. Work center supervisors and individual engine operators ensure this requirement is met, and decertify personnel who do not maintain proficiency.

18.26.16.6. (Added) MTF will develop course codes in CAMS and place on SCR to track the following:

18.26.16.6.1. (Added) Initial uninstalled engine run certification by TMSM.

18.26.16.6.2. (Added) Semiannual uninstalled engine run certification by TMSM.

18.26.16.6.3. (Added) Annual uninstalled engine run certification by TMSM.

18.26.16.6.4. (Added) 90 day uninstalled engine run proficiency requirement.

18.26.16.6.5. (Added) Uninstalled Engine Run Certifier.

18.26.16.7. (Added) Crew Size. The minimum requirements for engine run crew are:

18.26.16.7.1. (Added) Minimum crew size is three personnel, except for small gas test stand that requires a minimum of two personnel.

18.26.16.7.1.1. (Added) One crewmember must be engine run certified and will be responsible for engine operation/trim.

18.26.16.7.1.1. (Added) One individual, other than the engine run certified person, is test stand operator qualified.

18.26.16.7.1.1. (Added) Others, if not test stand/small gas test stand qualified, are briefed by the engine run certified person. As a minimum, the briefing includes emergency procedures and hazardous areas such as intake, exhaust, turbine/starter plane of rotation, high voltages, etc.

18.26.17.5. (Added) MTF will develop course codes in CAMS to track to following:

18.26.17.5.1. (Added) Hush house and T-9 fire control panel initial certification.

18.26.17.5.2. (Added) Hush house and T-9 fire control panel annual recertification.

18.26.17.5.3. (Added) Hush house and T-9 fire control panel certifier.

18.27.1. An operable Mode 4 is required for every equipped fixed and rotary wing aircraft sortie, with the sole exception of missions where this requirement would preclude the accomplishment of essential training. The MXG/CC will appoint a MODE IV/MODE-C manager. The MODE IV/MODE-C manager will ensure each unit accomplishes the required minimum number of MODE IV/MODE-C checks as defined below.

18.27.1.1. (Added) The unit MODE IV/MODE C program will include, as a minimum:

18.27.1.2. (Added) Pre-launch MODE IV/MODE C checks.

18.27.1.3. (Added) Aircrew notification of check results before flight.

18.27.1.4. (Added) Standardized documentation of MODE IV code insertion in aircraft AFTO Forms 781-series.

18.27.2.2. Each unit will conduct monthly checks and provide results to the wing MODE IV/MODE-C manager.

18.27.2.3. A list, by tail number, of check results (pass/fail) in the specified time period. List corrective actions for all failures.

18.27.2.7. (Added) When an aircraft is found to have a non-operational MODE IV, the aircraft commander determines the course of action based on operational needs and requirements.

18.28. CSO procedures will only be used with approved applicable MDS and 00-25-172 authorized TOs. Refer to the PACAF supplement to TO 00-20-1 for Quick Turn information.

18.28.1. The overall purpose is to ensure personnel are trained to successfully perform CSO with the understanding of risks and hazards involved when fuel servicing, munitions loading/unloading and aircraft inspections are conducted concurrently. Wings will develop procedures outlining training responsibilities. Training will include initial and annual briefing for CSS responsibilities.

18.28.3. The MXG/CC, in all fighter wings, will determine the number of CSS to be trained to achieve and provide the units desired CSO capability.

18.28.3.1. (Added) Prior to accomplishing CSO personnel must:

18.28.3.1.1. (Added) Have a thorough knowledge of safety requirements contained in 00-25-172, 11A-1-33, and MDS specific 1X-XXX-2, 1X-XXX-6 manuals, and 1X-XXX-33-1-2.

18.28.3.1.2. (Added) Be qualified in applicable tasks accomplished in support of CSO. Exception: For CSS, see requirements in paragraph 18.28.6.

18.28.3.1.3. (Added) Receive annual CSO familiarization training. Training will be documented in the CAMS.

18.28.3.2. (Added) MTF will incorporate the following minimum training requirements into initial/annual block training in units where CSOs are utilized. This training is targeted for non-2W1 maintenance AFSCs. 2W1s will incorporate requirements into their initial/annual weapons academics training.

18.28.3.2.1. (Added) Concept and inherent risks associated with CSO operations.

18.28.3.2.2. (Added) Safety requirements and emergency procedures (e.g. fuel spill, hydrazine, personnel evacuation, etc).

18.28.3.2.3. (Added) MDS specific requirements.

18.28.3.2.4. (Added) CSS departure from the CSO area.

18.28.3.2.5. (Added) Fire protection requirements IAW T.O. 00-25-172 Chapter III.

18.28.3.2.6. (Added) Cockpit access.

18.28.3.2.7. (Added) Support equipment.

18.28.3.2.8. (Added) Unique local operating procedures

18.28.3.3. (Added) Prior to accomplishing CSO CSS personnel must:

18.28.3.3.1. (Added) Have a thorough knowledge of safety requirements contained in 00-25-172 and 11A-1-33.

18.28.3.3.2. (Added) Receive annual CSS certification training from the MTF.

18.28.5.3. (Added) Units will develop a local CSO checklist used by the CSS to brief CSO personnel prior to accomplishing each concurrent servicing operation. QA, rather than units, will develop the CSO checklist. The checklist will address as a minimum the following:

18.28.5.3.1. (Added) Overview of the CSO.

18.28.5.3.2. (Added) Safety requirements IAW T.O. 00-25-172 Chapter VI.

18.28.5.3.3. (Added) Emergency notification procedures/withdrawal distances (e.g. fuel spill, hydrazine, personnel evacuation, etc)

18.28.5.3.4. (Added) CSS departure from the CSO area.

18.28.5.3.5. (Added) Fire protection requirements IAW T.O. 00-25-172 Chapter III.

18.28.5.3.6. (Added) Cockpit access.

18.28.5.3.7. (Added) Support equipment.

18.28.5.3.8. (Added) Munitions specific requirements.

18.28.5.3.9. (Added) Unique local operating procedures.

18.28.6.1. The CSS will supervise CSOs by using the appropriate checklist ensure that the CSO progresses safely and terminate actions when hazards jeopardize the safety of personnel or equipment; maintain communication with the appropriate flight line supervisor and MOC.

18.28.10. Live munitions will be used to the maximum extent possible during all exercises. Follow Command Munitions Policy.

18.29. (Added) WRM External Fuel Tank Build-up.

18.29.1. General. External fuel tank build-up is a wing program that provides a critical wartime skill that must compensate for the consumption of aircraft fuel tanks. Any personnel within the wing not assigned to a wartime UTC can be used to augment this wartime skill. Units will adhere to the direction outlined in their particular mission capability (MISCAP) statement and designed operational capability (DOC) statement governing the amount, size, and composition of fuel tank build-up teams. The MISCAP statement outlines the time allotted and the number of WRM tanks units will be tasked to build.

18.29.2. At long tour bases, the MXG/CC will ensure a viable training program is available to train fuel tank build-up augmentees. All personnel tasked to perform WRM external fuel tank build-up, regardless of AFSC, will attend initial external fuel tank build-up training. This training will either be conducted by AETC TD or by a fully qualified 2A674 technician. To ensure standardization, develop specific lesson plans and checklists for fuel tank build-up. Document individual training records. Personnel who have prior WRM external fuel tank training are exempt from the initial training course. Annual refresher training for WRM external fuel tank build-up is required for all personnel, except AFSC 2A6X4, Aircraft Fuel System Repair personnel. Refresher training may be accomplished during local exercises or deployments at the discretion of the unit MXG/CC. Training frequency should be flexible enough to compensate for projected losses of experienced personnel. Korean Peninsula bases are not required to maintain standing tank buildup teams and are relieved of the requirement to demonstrate fuel tank build-up. These bases are still responsible for maintaining the equipment/tools required to perform tank build-up, developing a plan/capability to form/train tank build-up teams, and maintaining built-up/nested WRM tanks. Units may be tasked to demonstrate their written plan. As a minimum, the unit will have a written plan containing the following:

18.29.2.1. (Added) Specific manning positions that will be tasked as tank build-up team augmentees. The F-16 independent UTC will be used as a guide to construct the teams.

18.29.2.2. (Added) Guidelines for activation of the tank build-up teams (this timeline should consider time needed for initial training) using assigned 2A6X4 personnel as trainers.

18.30.1. The MXG/CC is responsible for the base CDDAR program and ensures a support plan is developed which establishes unit CDDAR capabilities. The MXS Maintenance Flight manages the program according to this supplement, wing mission plans, and applicable Host-Tenant agreements. As a minimum, the wing will be specifically trained to respond to each MDS assigned to the wing or operating regularly from the base. The MXG/CC will determine if specific training is necessary for transient aircraft.

The wing will ensure deployed flying operations include CDDAR capability.) For the 36 ABW, Andersen AFB, Guam, the local host-tenant agreement will sufficiently address host/tenant responsibilities for AMC and AMC-contracted aircraft. The transient alert aircraft maintenance contractor will maintain CDDAR equipment/capabilities sufficient to remove disabled fighter/attack aircraft from the runway and such other CDDAR equipment as the 36 MXS Commander elects to maintain. Any specific MDS requiring crash removal services other than stated above must be provided by the owning organization.

18.30.2. CDDAR Plans. The Maintenance Flight will develop wing CDDAR procedures, coordinated through the fire department, safety, base medical personnel, disaster preparedness, operations, air traffic control, MOC and QA. Use the following guidance to help develop the procedures: AFI 32-4001, *Disaster Preparedness and Operations Planning*; AFMAN 32-4004, *Emergency Response Operation*s; 48-Series AFOSH standards; T.O. 00-105E-9, *Aircraft Emergency Rescue Information*; and aircraft specific -2 and -3 technical orders. Specify the extent of training required for transient aircraft in the wing procedures. As a minimum, wing procedures will address the following:

18.30.2.1. A list of all aircraft the wing is specifically trained to respond. Include each MDS assigned to the wing or operating regularly from the base and any transient type aircraft for which the MXG/CC determines specific training is necessary.

18.30.2.1.1. (Added) CDDAR responsibilities of each base organization for responses to aircraft for which the wing is specifically trained. Also address general information concerning responsibilities for transient aircraft.

18.30.2.1.2. (Added) Number of personnel required for CDDAR operations. Identify specific positions on the CDDAR team (i.e. CDDAR supervisor, tow vehicle operator, etc.).

18.30.2.1.3. (Added) Equipment and vehicles required for CDDAR operations. For the 36 ABW, Andersen AFB, Guam, the transient alert aircraft maintenance contractor will maintain CDDAR equipment sufficient to remove disabled fighter/attack aircraft from the runway and such other CDDAR equipment as the 36 MXS Commander elects to maintain.

18.30.2.1.4. (Added) Personnel Protective Equipment (PPE) required to perform recovery on aircraft containing composite/hazardous materials as determined by weapon system T.O.s and the Hazardous Material section of T.O. 00-105E-9.

18.30.2.1.5. (Added) Support for CDDAR after normal duty hours.

18.30.2.1.6. (Added) Rapid removal of aircraft on a runway or taxiway.

18.30.2.1.7. (Added) Hot brakes and barrier engagement operations.

18.30.2.1.8. (Added) CDDAR of aircraft on and off base, to include difficult to reach areas such as water or mountain recovery if applicable.

18.30.2.1.9. (Added) CDDAR support at geographically separated units if required by Host-Tenant agreements. Host-Tenant agreements must clearly define CDDAR responsibilities for the GSU.

18.30.2.1.10. (Added) Participation in wing CDDAR exercises.

18.30.3. (Added) Equipment. The Maintenance Flight is responsible for the inspection, repair, and storage of CDDAR equipment. CDDAR equipment is defined as any equipment used for CDDAR purposes, including trailers and CTKs. If CDDAR equipment is used for any other purpose the equipment will still follow CDDAR equipment guidelines.

18.30.3.1. (Added) A list of all CDDAR equipment will be maintained by the maintenance flight.

18.30.3.2. (Added) All equipment will be centrally located and stored in a manner that allows for rapid response.

18.30.3.3. (Added) Inspect and operationally check CDDAR equipment IAW technical data as directives specify or quarterly if there is no guidance for inspection criteria. Ensure all equipment is available, serviceable, and ready for use if needed. Inspections will be documented on AFTO Form 244 or PACAF Form 140.

18.30.3.4. (Added) Inform the MXG/CC in writing if the lack of a piece of equipment or serviceability of the equipment precludes the proper implementation of the CDDAR program.

18.30.4. (Added) Vehicles. The Maintenance Flight will identify requirements for special purpose CDDAR vehicles to the Logistics Readiness Squadron. Special purpose CDDAR vehicles do not have to be owned by the Maintenance Flight. However, they must be readily available for use during CDDAR operations. Recommended vehicles include:

18.30.4.1. (Added) General purpose radio-equipped truck.

18.30.4.2. (Added) Trailer and tow vehicle for storage and transportation of recovery equipment.

18.30.4.3. (Added) Aircraft tow tractor.

18.30.4.4. (Added) Crane (specify required size).

18.30.4.5. (Added) 40 ft flatbed trailer and tractor.

18.30.5. (Added) Training. The Maintenance Flight subject matter expert, in conjunction with the MTF will develop a CDDAR training program. The MTF will conduct both initial and recurring formal qualification courses and ensure certification is documented in CAMS. Recurring qualification training will be conducted every 15 months. Certification will not be completed until the trainee participates in a CDDAR exercise. For the 36 ABW, Andersen AFB, Guam, establish a CDDAR Training Program, including annual recurring training, documented for each trained individual. At a minimum, such a program will include the use and maintenance of assigned CDDAR equipment, and procedures for responding to aircraft emergencies. The formal MTF course will as a minimum cover:

18.30.5.1. (Added) Base CDDAR responsibilities.

18.30.5.2. (Added) Maintenance CDDAR responsibilities.

18.30.5.3. (Added) CDDAR procedures for each MDS assigned to the wing or operating regularly from the base.

18.30.5.4. (Added) CDDAR procedures for transient aircraft. Consider addressing each type of aircraft expected to pass through the base regularly. MXG/CC will specify the extent of training required for transient aircraft in the wing's CDDAR procedures. At a minimum, cover general information addressing responsibilities.

18.30.5.5. (Added) Inspection, operational check, and use of CDDAR equipment (this portion will be hands on).

18.30.5.6. (Added) Hazardous material handling.

18.30.5.7. (Added) Dangers/handling of composites.

18.30.5.8. (Added) Explosive safety.

18.30.5.9. (Added) CAMS course codes will reflect which MDS maintenance personnel are qualified to perform CDDAR duties on. Training courses do not need to be separate for each MDS; however, personnel must participate in a CDDAR exercise on a specific MDS before they are certified on that MDS. The Maintenance Flight Chief will ensure sufficient personnel are trained to operate special purpose vehicles.

18.30.6. (Added) Exercises. Conduct CDDAR exercises at least annually for each MDS assigned to the wing or operating regularly from the base. Exercises may be combined into a single exercise for MDSs based on the same basic airframe, i.e. KC-135/RC-135/E-3 or C-130/AC-130/EC-130/KC-130/MC-130. For the 36 ABW, Andersen AFB, Guam, conduct CDDAR exercises at least semiannually. The exercises should be coordinated with other wing agencies, including the 634 AMSS, when possible. At a minimum, such exercises will include a response to a simulated aircraft emergency, and the demonstrated use of assigned CDDAR equipment. Exercises will:

18.30.6.1. (Added) Involve all wing agencies involved in the CDDAR process.

18.30.6.2. (Added) Include simulated lifting of operational aircraft or actual lifting of ground maintenance trainer/ABDR aircraft.

18.30.6.3. (Added) Operational aircraft will never be lifted by any means. When an exercise involves operational aircraft, the exercise commander will determine if the crash crane will be used. When the crash crane is used with operational aircraft, attach the lifting sling to the aircraft and apply tension to the cables.

18.30.6.4. (Added) Demonstrate CDDAR equipment (inflate lifting bags, etc.).

18.30.6.5. (Added) Quality Assurance or the Wing Exercise Evaluation Team will evaluate each exercise.

18.31. **Forms Prescribed.** The following forms are prescribed:

PACAF Form 140, CTK Inventory and Control Log

PACAF Form 140a, Lost Tool/Chit Investigation Worksheet

18.33. (Added) Oil Analysis Program Responsibilities and Requirements (OAP).

18.33.1. (Added) General. It is imperative that an aggressive unit OAP program be established. Specific responsibilities and requirements are established and must be adhered to. Refer to PACAF training instruction for additional guidance. **NOTE:** Aircraft that do not have a technical order oil analysis requirement are exempt from this program

18.33.2. (Added) PACAF LGM Responsibilities.

18.33.2.1. (Added) Manages the command OAP.

18.33.2.2. (Added) Appoints a qualified senior NCO to manage OAP and serve as a point of contact for OAP activities.

18.33.3. (Added) Wing Commander Responsibilities.

18.33.3.1. (Added) Ensures an effective wing OAP is implemented.

18.33.3.2. (Added) Appoints the MXG/CC or designated representative as the Wing OAP Manager with the Deputy MXG/CC as the alternate.

18.33.4. (Added) MXG/CC Responsibilities.

18.33.4.1. (Added) Ensures that the maintenance supervision complies with the OAP IAW TO 33-1-37-1/2/3, AFI 21-124 and other applicable directives.

18.33.4.2. (Added) Ensures the NDI/OAP facility is on a priority repair list with base Civil Engineer.

18.33.4.3. (Added) Ensures base Civil Engineer maintains an alternate power source of sufficient voltage capacity at the OAP Lab to be used in times of power outage. This will allow the OAP process to continue without delay.

18.33.4.4. (Added) Ensures the NDI/OAP facility has a class A telephone and a direct line to MOC to expedite the reporting of abnormal wear-metal trends.

18.33.5. (Added) Wing OAP Manager Responsibilities.

18.33.5.1. (Added) Manages the OAP IAW TO 33-1-37-1/2/3, AFI 21-124, and other applicable directives.

18.33.5.2. (Added) Develops procedures to establish policy and requirements for the wing OAP. Include a standardized method to ensure the total oil serviced since last OAP sample can be tracked and accurately entered on the DD Form 2026, Oil Analysis Request.

18.33.5.3. (Added) Ensures all organizations requiring OAP support, appoint an OAP Manager and alternate using an appointment letter.

18.33.5.4. (Added) Conducts quarterly OAP meetings with the MXG/CC, the squadron maintenance supervision, Propulsion Flight Chief, all organizational OAP Managers, and the NDI Section chief. As a minimum, the following information will be topic for discussion during the quarterly meeting:

18.33.5.4.1. (Added) Number of OAP samples processed.

18.33.5.4.2. (Added) Number and percentage of DD Forms 2026 errors. **NOTE:** Count each DD Form 2026 that has any errors as one error, then divide the number of discrepant DD Form 2026s by the total number of OAP samples processed for the error percentage.

18.33.5.4.3. (Added) Number of OAP laboratory maintenance recommendations.

18.33.5.4.4. (Added) Average OAP sample response time (SRT). **NOTE:** Enter SRT to the nearest tenth of an hour and do not include the time when the OAP lab is not manned.

18.33.5.4.5. (Added) Number and percentage of OAP samples that exceeded required sample response times. Obtain the percentage by dividing the number of OAP samples exceeding required sample response time by the total OAP samples processed.

18.33.5.4.6. (Added) Number and percentage of aircraft engines not sampled as required by applicable technical order. Accomplish this by dividing the number of aircraft engines not sample as required by the total OAP samples processed.

18.33.5.4.7. (Added) Number of OAP lab maintenance recommendations confirmed by physical finding of abnormal wear or potential for catastrophic failure "hits".

18.33.6. (Added) Maintenance Supervision.

18.33.6.1. (Added) Ensures all assigned aircraft are sampled IAW the applicable aircraft TO and that all aircraft requiring daily OAP sampling are sampled after the first sortie (flight) of the day.

18.33.6.1.1. (Added) The following exceptions apply when aircraft are hot pitted.

18.33.6.1.1.1. (Added) A-10 aircraft shall be sampled immediately after the second "hot pit and go sortie" (third consecutive flight) with OAP sample results known prior to the next sortie (fourth flight).

18.33.6.1.1.2. (Added) F-15 aircraft, regardless of installed engine type, shall be sampled immediately after the second "hot pit and go sortie" (third consecutive flight) with OAP sample results known prior to the next sortie (fourth flight)

18.33.6.1.1.3. (Added) F-16 aircraft with GE engines shall be sampled immediately after the second "hot pit and go sortie" (third consecutive flight) with OAP sample results known prior to the next sortie (fourth flight).

18.33.6.1.1.4. (Added) F-16 aircraft with P&W engines shall be sampled immediately after the first "hot pit and go sortie" (second consecutive flight) with OAP sample results known prior to the next sortie (third flight).

18.33.6.1.2. (Added) F-15 aircraft are required to shut down the #1 engine for "hot pit" refueling. This does not generate the need for OAP sampling.

18.33.6.1.3. (Added) A-10 aircraft may shut down the #2 engine for "hot pit" refueling, if applicable. This does not generate the need for OAP sampling.

18.33.6.2. (Added) Ensures aircraft that fail to meet the required OAP sample response time or are not sampled as required by this supplement and applicable -6 are not flown until the OAP sample results are known.

18.33.6.3. (Added) Ensures OAP samples not drawn within the required time period by the applicable -6 will have a 15-minute ground run accomplished before the engine can be sampled. This ensures a true homogenous sample is obtained for an accurate analysis.

18.33.6.4. (Added) Ensures OAP samples are delivered to the OAP lab with a DD Form 2026 or locally overprinted DD Form 2026, Oil Analysis Request, filled out IAW TO 33-1-37-1. Crew chiefs must fill out the DD Forms 2026 immediately prior to the flight requiring an oil sample completing the oil added, hours since overhaul, hours since oil change and time sample taken blocks when the oil sample is taken.

18.33.6.4.1. (Added) In the DD Form 2026 "hours/miles since overhaul block use engine flight time. EXCEPTION: Some series engine wear trends, such as the F100, are based on engine operating time. This time must be downloaded at the end of the flying day for F100-220/229 engines requiring aircraft and NDI/OAP lab records to be adjusted accordingly.

18.33.6.4.2. (Added) In the DD Form 2026 "hour since oil change" block annotate hours since last oil change. EXCEPTION: Engines which do not have scheduled oil change intervals do not require the oil change block to be filled out. Propulsion Flight will annotate this data in the remarks block for oil tracking purposes.

18.33.6.5. (Added) Ensures total oil serviced since last OAP sample taken is annotated on the DD Form 2026 before the OAP sample is sent to the OAP lab for analysis.

18.33.6.6. (Added) Ensures flight line personnel verify with the OAP lab that the information entered in the OAP records (DD Form 2027, Oil Analysis Record or automated OAP records) matches during scheduled aircraft records checks. Verify, as a minimum, engine operating hours, time since oil change, oil serviced since last records check OAP sample, engine serial number(s) and aircraft serial number. **NOTE:** GP or equivalent may waive verification of OAP records against aircraft records when aircraft are deployed and the scheduled aircraft records check is due.

18.33.6.7. (Added) Identifies AMU OAP Managers and alternates by appointment letter, and forwards a copy to the Wing OAP Manager and the OAP laboratory. The appointment letters should include grade, name, duty phone, AFSC, organization and office symbol.

18.33.6.8. (Added) The AMU OAP manager will be a NCO with the authority and experience necessary to manage the AMU's program. They serve as the primary liaison between their AMU and the OAP lab for all OAP issues and must attend all OAP meetings involving their AMU.

18.33.6.9. (Added) Ensures OAP Managers are trained properly as required by TO 33-1-37-1.

18.33.6.10. (Added) Ensures all aircraft engines under special OAP codes IAW TO 33-1-37 are not flown until results of the OAP sample(s) are known. Code C aircraft may be scheduled for normal hot pit operations, provided they meet the other requirements of this paragraph.

18.33.6.10.1. (Added) Ensure all aircraft engines under OAP code D are not operated until discrepancies are corrected and verified with the OAP lab. NOTE: Code D identifies DD Form 2026 discrepancies that are essential to oil analysis trending and removes that engine from service until the discrepancy is corrected. These discrepancies are equipment and end item serial number error, hours since overhaul, oil change time error, and oil added since last sample error.

18.33.6.11. (Added) Ensures DD Forms 2026, Oil Analysis Request, with equipment and/or end item serial number error, hours since overhaul error and oil added since last sample error are corrected immediately.

18.33.6.12. (Added) Ensures the flight line expediters maintain a OAP status on each assigned aircraft showing all lab recommendation codes that are not routine (code A) next to the aircraft serial number. Prior to commencing the flying day, verify status of aircraft or engines on special surveillance.

18.33.6.13. (Added) Ensures all maintenance actions affecting oil-wetted engine components are provided to the OAP lab using the remarks section of the DD Form 2026 or a suitable local form.

18.33.6.14. (Added) Ensures assigned OAP Managers or alternates attend all OAP meetings.

18.33.7. (Added) Propulsion Flight Chief Responsibilities. NOTE: When no Propulsion Flight exists, or the propulsion flight performs no maintenance on the affected oil wetted system, the MXG/CC or designated representative or equivalent assumes these responsibilities.

18.33.7.1. (Added) Ensures accurate and timely deficiency reports are submitted through the unit Product Improvement Manager to the applicable ALC engine program offices on all engines requiring tear down or overhaul due to an OAP laboratory maintenance recommendation and on all oil-wetted component failures where no OAP laboratory maintenance recommendation was made.

18.33.7.2. (Added) Ensures a copy of the DD Form 2027 or a suitable automated form is provided to depot for each engine undergoing scheduled maintenance or overhaul at depot.

18.33.7.3. (Added) Makes the final decision regarding all OAP engine maintenance action recommendations.

18.33.7.4. (Added) Ensures all maintenance actions, which affect oil-wetted engine components, are provided to the OAP Lab. This should be done by using the remarks section of the DD Form 2026, which is submitted with OAP sample for maintenance on an oil-wetted engine component.

18.33.7.5. (Added) Appoints OAP Managers and provides the names by appointment letter to the Wing OAP Manager and the OAP lab. Include grade, name, duty phone, organization, AFSC and office symbol.

18.33.7.6. (Added) Ensures OAP Managers are trained properly as required by TO 33-1-37-1.

18.33.7.7. (Added) Ensures assigned OAP Managers or alternates attend all OAP meetings.

18.33.8. (Added) MOC Responsibilities.

18.33.8.1. (Added) Maintains an OAP status on each assigned aircraft showing all lab recommendation code that are not routine (code A) next to the aircraft serial number.

18.33.8.2. (Added) Serves as primary communications link for the transfer of OAP information between the OAP lab and its customers.

18.33.8.3. (Added) Relays to the OAP lab, information regarding engine changes on and off station as they occur but no later than 0800 the next duty day.

18.33.9. (Added) NDI/OAP Lab NCOIC Responsibilities.

18.33.9.1. (Added) Operates the OAP laboratory and maintains environmental controls IAW TO 33-1-37/2/3, AFI 21-124 and other applicable directives.

18.33.9.2. (Added) Ensures the scheduled aircraft records check is documented on the affected engine's OAP record (DD Form 2027 or automated OAP records) with the date the check was accomplished and OAP lab person’s initials.

18.33.9.3. (Added) Ensures a copy of the DD Form 2027, or a suitable automated form, is provided to the propulsion flight for each engine undergoing scheduled maintenance or overhaul at depot.

18.33.9.4. (Added) Immediately notifies MOC and the propulsion flight chief when an installed engine is restricted from operation or is placed on special sampling.

18.33.9.5. (Added) Ensures analysis results on all installed engines are provided to MOC after analysis of the OAP sample is complete.

18.33.9.6. (Added) Immediately notifies test cell and the propulsion flight chief when abnormal OAP results are discovered on test cell engines.

18.33.9.7. (Added) Ensures DD Forms 2026 with equipment and/or end item serial number error, hours since overhaul error and oil added since last sample error, are corrected immediately.

18.33.9.8. (Added) Tracks aircraft OAP sample response times for all assigned aircraft to ensure the response time compliance.

18.33.9.9. (Added) Maintains a current appointment letter of all customer OAP managers.

18.33.10. (Added) OAP Sample Response Time Requirements for Routine OAP Samples. NOTE: The OAP sample response time begins at the time the OAP sample is taken and ends at the time the oil analysis results are reported to the MOC.

18.33.10.1. (Added) Two and one half-hours for one and two engine aircraft. Draw the sample within the specified time according to the applicable -6 TO, and deliver to the OAP lab within 75 minutes of engine shutdown, allowing adequate time for analysis of the sample. MXG/CC may adjust the 2 1/2 hour rule as needed to accommodate flying windows.

18.33.10.2. (Added) Five hours for all other aircraft. When the OAP Lab is not manned, they shall provide results to the MOC NLT two hours after the beginning of the next shift. NOTE: OAP response time

does not apply to aircraft that are geographically separated from the supporting OAP lab. However, aircraft WILL NOT fly beyond the applicable -6 TO sampling interval.

18.33.10.3. (Added) Processes/delivers special "Red Cap" samples immediately after drawing the sample. The OAP lab will assign priority to "Red Caps" over routine samples and expedite results to MOC.

18.33.10.4. (Added) Four hours for engine ground/trim and test cell runs.

18.33.11. (Added) OAP Requirements For Cross-Country Flights/Deployments. NOTE: Do not prepare documentation for the C-9A aircraft due to the sampling interval in the TO 1C-9A-6. EXCEPTION: If the aircraft is scheduled to be off station for more than 7 consecutive days, prepare cross-country OAP records.

18.33.11.1. (Added) Flight line personnel place an oil analysis record (automated record or a copy of DD Form 2027) in the aircraft AFTO Forms 781-series forms jacket prior to departure.

18.33.11.2. (Added) The OAP lab personnel ensure the oil analysis record contains at least the last 10 analyses. The flight line expediter or pro super notifies the OAP lab in advance for cross-country documents.

18.33.11.3. (Added) Flight line personnel sign for the oil analysis record at the OAP lab and return it to the lab the day the aircraft returns to home station.

18.33.11.4. (Added) MOC notifies the OAP lab when the cross country/deployed aircraft return.

18.33.11.5. (Added) The OAP lab notifies MOC if the oil analysis record is not returned.

18.33.11.6. (Added) MOC initiates follow-up action when the oil analysis record is not returned to the OAP lab.

18.33.11.7. (Added) The OAP lab reviews the returned oil analysis record for adverse trends and takes necessary action.

18.33.11.8. (Added) AMUs will follow the maintenance procedures in this supplement at the deployment sites.

18.33.11.9. (Added) Deployed OAP personnel shall have telephone or radio communication with MOC and the AMU to expedite reporting of abnormal OAP trends.

18.33.12. (Added) OAP Requirements for Transient Aircraft.

18.33.12.1. (Added) Transient maintenance personnel sample aircraft as required by this section and applicable -6 technical order.

18.33.12.2. (Added) Transient maintenance personnel draw the OAP sample and make a Red Dash entry on the AFTO Form 781A indicating; "Engine oil analysis results due".

18.33.12.3. (Added) When OAP capability exists at a transient location and an OAP sample is required; the OAP sample results shall be known prior to aircraft departure unless authorized otherwise by the MXG/CC at the transient location.

18.33.12.4. (Added) If OAP sample results are not provided before aircraft departure, the results shall be forwarded via FAX by the local MOC or transient maintenance to the aircraft's next destination (either MOC, TA, or base operations).

18.33.12.5. (Added) Transient bases without OAP capability shall take required OAP samples. The OAP samples shall be analyzed at the next base along with the next OAP sample.

18.34. (Added) Scanning Electron Microscope/Energy Dispersive X-ray (SEM/EDX) Master Chip Detector Analysis Program (MCDP)

18.34.1. (Added) General. This section establishes procedures for management of the Aircraft Engine Magnetic Chip Detector Debris Program for units with SEM/EDX machines, for all assigned F110-GE-100/-129 engines.

18.34.2. (Added) The NDI element section chief will be the point of contact for SEM/EDX related matters.

18.34.3. (Added) All organizations requiring recurring chip detector analysis service shall identify by letter a primary and alternate MCDP monitors for their unit. Letters will include the phone numbers of both the primary and alternate monitors. The letter will be updated annually or when personnel or phone numbers change.

18.34.3.1. (Added) All newly assigned MCDP monitors will attend a briefing by NDI lab. This briefing will cover the duties and responsibilities of all MCDP monitors.

18.34.4. (Added) All MCDP Monitors or their representatives will ensure the following:

18.34.4.1. (Added) Magnetic Chip Detectors (MCD) are submitted for debris analysis for their aircraft and assigned engines as per applicable technical order.

18.34.4.2. (Added) Ensure MCD debris analysis is forwarded with the following information: AMU, rank/name, aircraft serial number, engine serial number, total engine hours, date/time, visual chips, reason for analysis request and sortie number. This information will be annotated on a locally developed form.

18.34.4.3. (Added) Ensure all MCD debris analysis documentation errors are corrected as soon as possible when notified of the error by the NDI lab.

18.34.5. (Added) The NDI lab will:

18.34.5.1. (Added) NOTE: Timely MCD analysis is critical to weapon system integrity and operational safety. Effective risk mitigation requires meticulous attention to ensure analysis is performed at the technical data-established intervals. These intervals will not be exceeded.

18.34.5.2. (Added) Notify MOC of the results of each Magnetic Chip Detector Analysis.

18.34.5.2.1. (Added) Complete analysis and notify MOC within sufficient time to meet technical order directed results notification intervals.

18.34.5.2.2. (Added) MCD analyses that indicate significant levels of M50 or other critical materials will be immediately reported to the MOC. MOC will in-turn contact the owning AMU to arrange for immediate return of affected aircraft to home station.

18.34.5.2.3. (Added) Immediately notify test cell personnel of analysis results for engines in test cell.

18.34.5.2.4. (Added) Notify the MOC, propulsion flight, and PACAF propulsion and NDI functional managers during periods of NDI lab downtime.

18.34.5.2.5. (Added) Provide AMUs with one clean MCD for each detector submitted for analysis.

18.34.6. (Added) Maintenance Supervision will:

18.34.6.1. (Added) Be responsible for monitoring the MCDP on the flight line.

18.34.6.2. (Added) Ensure visual inspection of the MCD is performed IAW applicable technical orders.

18.34.6.2.1. (Added) Ensure an entry is made in the aircraft forms that a Visual MCD Inspection is Due. This entry will be a red dash entry.

18.34.6.3. (Added) Ensure MCDs are submitted for analysis within 75 minutes after engine shutdown.

18.34.6.4. (Added) Ensure an entry is made in the aircraft forms that the MCD has been submitted for analysis. This will be a red dash entry.

18.34.6.5. (Added) Ensure current SEM/EDX status code is maintained for each aircraft serial number to indicate aircraft status relative to MCD analysis results. The following codes will be used:

Level 0 Fully MC- No chips detected.

Level 1 Fully MC- Chips detected but within limits.

Level 2 Warning- Material amount exceeded.

Level 3 Warning- Severe amount of material detected.

18.34.6.6. (Added) Coordinate with MOC to recall aircraft determined to be flying with unacceptable levels of debris.

18.34.7. (Added) The MOC will:

18.34.7.1. (Added) Serve as primary communication link for transfer of SEM/EDX information between the NDI lab and its customers.

18.34.7.2. (Added) Ensure current SEM/EDX status code is maintained for each aircraft serial number to indicate aircraft status relative to MCD analysis results.

18.34.7.3. (Added) Immediately notify the owning AMU when MCD analysis indicates unacceptable levels of debris so they can coordinate recall of affected aircraft.

18.34.8. (Added) Cross Country/Deployed MCDP Analysis Requirements.

18.34.8.1. (Added) NDI will be notified prior to deployment to determine if MCDP support will be available at the deployed location.

18.34.8.2. (Added) If it is determined that MCDP is not available, visual MCD inspections will be performed IAW applicable engine directives.

18.35. (Added) Aircraft Welding Certification Program. Refer to AFI 21-105, PACAF Supplement 1, for Aircraft Welding Certification Program information.

18.36. (Added) F-16 Main Fuel Shutoff Valve (MFSOV) Configuration.

18.36.1. (Added) All PACAF F-16 units will ensure the following MFSOV configuration is present: MFSOV indicator lever safety wired in the open position, cannon plug connected to actuator, MFSOV circuit breaker pulled and collared, and cockpit master fuel switch guard safety wired down with .020 copper frangible safety wire (IAW TCTO 1F-16-1911) or be in compliance with TCTO 1F-16-1977.

18.36.2. (Added) Document this MFSOV configuration as follows: In the discrepancy block of the AFTO Form 781A, enter the words INFO-NOTE MFSOV indicator lever safety wired to the open posi-

tion. MFSOV circuit breaker pulled and collared. Do not enter this configuration on a Red Diagonal or in the 781K. This entry will be carried forward as necessary.

18.36.3. (Added) MFSOV system activation for maintenance will be entered in the AFTO Forms 781A as a Red X discrepancy. The corrective action for this discrepancy will be to return the MFSOV system to the standard PACAF configuration as mentioned above.

18.36.4. (Added) Units will publish guidance in local aircraft acceptance inspection procedures to verify MFSOV and cockpit switch guard configuration, and if necessary comply with this command MFSOV policy and TCTO 1F-16-1977 requirements.

18.36.5. (Added) For aircraft involved in combined (rainbow) deployments, aircraft going in and out of the depot, or cross country flights to commands and bases that do not maintain this aircraft configuration, ensure all personnel that will use or work on PACAF aircraft are aware of this configuration.

Table 18.1. Mandatory Special Certification Roster (SCR) and Prerequisites.

ITEM	Mandatory SCR Item Titles	Prerequisites
Item 25	Concurrent Servicing Supervisor (CSS) for CSO (A-10, F-15, F-16)	Minimum 7-skill level 2AXXX or 2WXXX AFSC with a minimum of one year experience on the MDS (Note 2)
Item 26	Clear Repeat/Recur discrepancies/Sign "Inspected By" block for Repeat/Recur discrepancies	Minimum 7-skill level (or civilian equivalent) (Note 2)
Item 27	Clear Could Not Duplicate (CND) discrepancies	Minimum 7-skill level (or civilian equivalent) (Note 2)
Item 28.1dded)	For tankers, airlift, bombers and passenger aircraft, include on the SCR: KC-135 rapid de-fuel, by position (excluding fireguard).	Minimum 5-skill level (or civilian equivalent) and 1-year weapons system experience. (Note 2)
Item 28.2(Added)	Aircraft cockpit brake rider	Minimum 5-skill level (or civilian equivalent) and 1-year weapons system experience. (Note 2)
Item 28.3(Added)	Aircraft tow vehicle driver	Minimum 5-skill level (or civilian equivalent) and 1-year flight line experience. (Note 2)
Item 28.4(Added)	Aircraft tow supervisor.	SrA or higher, minimum 5-skill level (or civilian equivalent) and 1-year flight line experience. (Note 2)
Item 28.5(Added)	Jacking supervisor	SSgt or higher, minimum 5-skill level (or civilian equivalent) and 1-year flight line experience. (Note 2)
Item 28.6(Added)	Gear retraction team member, by position	Supervisor only/SrA or higher, all positions minimum 5-skill level (or civilian equivalent) and 1-year flight line experience. (Note 2)
Item 29	Engine Trim Box Operator (F-100-PW-100 or 200 engines)	SrA or higher, minimum 5-skill level, 2A6X1X (or civilian equivalent) and 1-year experience. (Note 2)
Item 30	Engine Trim Box Certifier (F-100-PW-100 or 200 engines)	Most qualified 7 or 9 level, (or civilian equivalent) (Note 1)
Item 31 (Added)	Hush House/T-9 Fire Control Panel Operator	SrA or higher, minimum 5-skill level, 2A6X1X (or civilian equivalent) and 1-year experience. (Note 2)
Item 32 (Added)	Hush House/T-9 Fire Control Panel Certifier	Most qualified 7 or 9 level, (or civilian equivalent) (Note 1,2)

ITEM	Mandatory SCR Item Titles	Prerequisites
Item 33 (Added)	Red-X, limited per MDS for intake & exhaust inspection	SrA or higher (or civilian equivalent), minimum 5-skill level in CAFS, with a minimum of 6 months time on weapon system. (Note 2)
Item 33 (Added)	Red-X, limited by TMS	Minimum 5-skill level, minimum for blade blending 6 months time on weapon system. (Note 2)

Table 18.2.(Added) Hot/Aircraft-to-Aircraft Refueling Training/Certification Requirements.

Position	Required Training	Do What	Proficiency Requirements	Special Requirements
Squadron Certifier	I, II, III	Perform	1 Refuel Semi-Annually	Annual Evaluation and one time EPE by QA OIC/NCOIC
Pad Supervisor	I, II, III	Supervise	1 Multiple Refuel Semi-Annually	Annual Evaluation by QA or SC
Refuel A,B,C,D Member	I, II, III	Perform In Any Qualified Position	1 Refuel Semi-Annually, "C" Annually	Annual Evaluation by QA or SC
Decertified QA, Squadron Certifier or Pad Supervisor	Repeat II, III	Supervise		EPE Required 1 Refuel Within 30 Days Of Decertification
Decertified A,B,C,D	Repeat II, III	Perform		1 Refuel Within 30 Days Of Decertification

NOTES:

EPE - Evaluator Proficiency Evaluation

SC - Squadron Certifier

Chapter 19 (Added)

MAINTENANCE CONTRACT SURVEILLANCE

19.1. (Added) Procedures. This chapter establishes procedures for surveilling service contracts in support of aircraft, trainer and systems maintenance using a statement of work (SOW) or performance work statement (PWS). The surveillance procedures outlined in this instruction are based on the guidance contained in AFI 63-124 *Performance Based Service Contracts* (Existing service contracts will continue using the Performance Requirements Summary (PRS), required in AFM 64-108, unless the appropriate Contracting Officer (CO) determines otherwise). Any existing service contract that falls under AFM 64-108 shall comply with AFM 64-108 requirements until that contract expires.

19.1.1. (Added) AFI 21-127, *Quality Assurance for Aerospace Equipment Maintenance,* (Draft), provides guidance for those aircraft that are maintained by full Contractor Logistics Support (CLS). When contract surveillance responsibilities for CLS, has been delegated to PACAF units, the PACAF Weapon System Functional manager, will work closely with the contracting ALC or ACO/PCO in developing a QASP, as described in this chapter, that provides a planned process for surveilling the contractor's actual performance and comparing that performance against the contractual requirements to determine conformity with the technical requirements of the contract. Conflicts or ambiguities with the performance of contract surveillance should be elevated to the PACAF Weapon System Functional manager for resolution.

19.1.2. (Added) This chapter is applicable only to the extent incorporated into the applicable contract Performance Work Statement (PWS), Statement of Work (SOW), and Quality Assurance Surveillance Plan (QASP).

19.1.3. (Added) It applies to PACAF units as they are charged with responsibilities by appropriate authority or concur in carrying out aspects of the policies and procedures in this instruction. It does not apply to aircrew training devices covered by AFI 36-2248, *Operation and Management of Aircrew Training Devices.*

19.2. (Added) Responsibilities and Training. The Functional Director or Commander (FD/FC) of a contractor operated functional area establishes a quality assurance evaluation program as outlined in this instruction. The functional area includes all maintenance activities as defined in the SOW or PWS.

19.2.1. (Added) Program Manager or Deputy Program Manager/Assistant Director. Program Manager duties are basically synonymous with Functional Director duties. When the position is applicable, the Deputy Program Manager and/or Assistant Director are located in the field and assist the Program manager and the Functional Director in accomplishing these same duties and responsibilities.

19.2.2. (Added) For the purposes of this instruction, the term Quality Assurance Evaluator (QAE) is used to describe all government personnel appointed to surveil maintenance contracts and is synonymous with any other terms used in specific weapons system contracts; for example, Quality Assurance Representative (QAR).

19.2.3. (Added) The QAE function is responsible for a wide range of requirements related to the surveillance of maintenance contracts. Observations are reported to the Functional Director or Commander, administrative contracting officer (ACO), appropriate NAF as applicable, and PACAF. The QAE also acts as an adviser to the ACO and Functional Director or Commander for contract technical issues. In addition,

the QAE evaluates and recommends contract modification, contract re-competition, and award fee criteria.

19.2.4. (Added) Successful contract performance is dependent upon positive open communication between the CO, the functional director or commander, the QAE, and the contractor. All parties must strive to achieve and maintain an atmosphere of cooperation. Successful strategies may include regularly scheduled meetings between the Chief QAE and the contractor to discuss inspection results, trends, and other items of mutual interest. Any changes to the terms and conditions of the contract shall be accomplished by the Administrative Contracting Officer (ACO). The QAE and the contractor are not adversaries; rather, they are partners who share the same goal--successful contract performance.

19.3. (Added) Functional Director or Commander Responsibilities. The commander or functional director of the contracted function is designated as the Functional Director or Commander. For example, for Maintenance Squadron, the squadron commander is that person. When contract requirements from multiple bases or wings are combined, higher headquarters will designate one organization commander or director as the Functional Director/Commander. The FD/FC must keep up to date on mission changes that could affect the contractor's ability to perform. Specifically, the FD/FC:

19.3.1. (Added) Develops a Quality Assurance Evaluation Program (QAEP) that effectively measures and evaluates contractor performance throughout the life of the contract. The QAEP is established and implements the requirements of this instruction and, as a minimum, includes the Quality Assurance Surveillance Plan (QASP) (paragraph **19.8. (Added)**) and the QAE assessment program (paragraph **19.20. (Added)**). The ability of QAEs to determine services received on behalf of the government is directly related to a well-developed QAEP.

19.3.2. (Added) Appoints, in writing, qualified QAEs. Authorizations will be as a minimum 7 level, or civilian equivalent, and will be filled at 100 percent. QAEs are selected based on experience in the career field, weapon system experience, quality force issues, and supervisor's recommendations. A copy of the letter of appointment is provided to the owning Major Command (MAJCOM) and Local Contracting Office, and if applicable, the Defense Contract Management Area Office (DCMAO) and cognizant Air Logistic Center (ALC). FD/FCs must notify their local Quality Assurance Evaluator Program Coordinator (QAEPC) within 30 days whenever a QAE vacates the position. Also, QAE appointments must be made to the local contracting office NLT 90 days before contract start.

19.3.3. (Added) Reviews problem areas identified by the QAE and coordinates with the ACO to resolve the problems. If the problem cannot be resolved, requests assistance through PCO, Numbered Air Force (NAF), as applicable, and PACAF.

19.3.4. (Added) Ensures the following actions and documents are coordinated with ACO, PCO, appropriate NAF, as applicable, and PACAF prior to approval and implementation:

19.3.4.1. (Added) Intent or consideration to default or re-compete the contract prior to the scheduled re-competition.

19.3.4.2. (Added) Modifications to the contract involving SOW or PWS and scope of work requirements, to include estimated cost.

19.3.4.3. (Added) Changes to the award fee plan.

19.3.4.4. (Added) Locally procured maintenance contracts.

19.3.5. (Added) Coordinates temporary waivers with PACAF when initiated by the contractor as a result of government action that significantly impairs the contractor's ability to meet established standards. Provide appropriate NAF, as applicable, an information copy of temporary waivers.

19.3.6. (Added) Approves requests for increase in allowance standards on non-weapons items (budget code 9 and Z)

19.3.7. (Added) Receives FD/FC training from the QAEPC.

19.3.8. (Added) Verifies that the contractor submits required reports according to the SOW or PWS and PACAF directives.

19.3.9. (Added) Verifies that the contractor performs SOW or PWS requirements in an environmentally acceptable manner consistent with federal, state, and local environmental laws and Air Force directives.

19.3.10. (Added) Works with ACO to develop and update the contract default plans (If applicable).

19.3.11. (Added) Establishes procedures for technical evaluation of contractor submitted value engineering change proposal.

19.3.12. (Added) Participates as a member of the award fee board (if applicable).

19.3.13. (Added) Monitors and surveils applicable contractor logistics support (CLS) SOW or PWS.

19.3.14. (Added) Establishes a QAE assessment program (paragraph **19.20. (Added)**).

19.3.15. (Added) Selects QAEs to serve on source selection teams.

19.3.16. (Added) Selects and appoints a chief QAE (where practical).

19.3.17. (Added) Reviews monthly surveillance schedules.

19.3.18. (Added) Ensures QAEs are not assigned additional duties that interfere with their ability to fully meet the time requirements of contract surveillance and other QAE duties.

19.4. (Added) Chief QAE Responsibilities. The purpose of the Chief QAE is to ensure surveillance of contractor performance and report noncompliance or abnormalities to the FD/FC and ACO. In smaller units where it is not practical to designate a Chief QAE, the FD/FC ensures the responsibilities in this paragraph are met. Specifically, the Chief QAE:

19.4.1. (Added) Verifies that the contractor meets contract obligations specified in the SOW or PWS.

19.4.2. (Added) Ensures QASP is developed prior to contract award and annually reviews it for adequacy.

19.4.3. (Added) Reviews the contractor's quality control plan for compliance with the applicable quality standard cited in the SOW or PWS and to ensure the plan is comprehensive, covering all aspects of the contracted services. Recommends acceptability to the ACO through the FD/FC.

19.4.4. (Added) Ensures each QAE is initially evaluated to determine past qualifications, experience, and ability to accomplish technical inspections and contract surveillance functions. Before performing evaluations, inspections, or surveillance duties unsupervised, each evaluator must be qualified in the appropriate area.

19.4.5. (Added) Periodically, but not less than annually, performs an "over the shoulder" (OTS) evaluation of each primary and alternate QAE in the performance of surveillance activities. The purpose of this evaluation is to ensure proficiency in surveillance techniques. Document the results of the evaluation in

the QAE's training records. This may be delegated to the QAE superintendent, or equivalent, in large units.

19.4.6. (Added) Ensures a QAE training program is established and implemented.

19.4.7. (Added) Assists the ACO in managing the applicable government-furnished equipment clause of the contract. Specifically, the chief QAE:

19.4.7.1. (Added) Ensures the contractor maintains a current master listing of government-furnished equipment and that adjustment to the master listing of government-furnished equipment are verified and documented by a government representative.

19.4.7.2. (Added) Assists in joint inventories conducted by the contractor prior to assuming responsibility of a functional area and prior to completion of the existing contract as outlined in the SOW, PWS, and Federal Acquisition Regulation (FAR).

19.4.7.3. (Added) Verifies that the contractor acknowledges receipt for all equipment provided by the government.

19.4.8. (Added) Develops a monthly summary of QAE surveillance activities and forwards a copy of the summary to the ACO, the FD/FC, and (or) appropriate NAF, as applicable not later than the 15th workday of the month. Maintain copies of all summaries on file for the life of the contract.

19.4.9. (Added) Assists PACAF, the FD/FC, and (or) the ACO in determining contract cost, if requested.

19.4.10. (Added) Calculates award fee data at the end of each quarterly award fee period, using monthly cumulative figures versus monthly percentages, if applicable.

19.4.11. (Added) Assumes QAE responsibilities when circumstances warrant.

19.4.12. (Added) Ensures development and maintenance of the QASP in coordination with the FD/FC, ACO, and PACAF (as applicable). Provides an information copy to appropriate NAF, as applicable, if requested.

19.4.13. (Added) Ensures monthly surveillance schedules are developed as required in paragraph **19.9. (Added)**

19.4.14. (Added) Assists in mishap and incident reporting, as applicable.

19.4.15. (Added) Verifies statistical information provided by the contractor that concerns the standards specified in TE-1 of the applicable contract to ensure accuracy, completeness, and adequacy, and coordinate this information with supply and operations prior to final validation when applicable. For award fee contracts, the Chief QAE forwards the applicable information to the functional director or commander. (EXCEPTION: The senior functional check flight (FCF) pilot validates FCF release rates, if applicable.)

19.5. (Added) QAE Responsibilities. QAEs are the eyes and ears of the FD/FC and ACO relative to the actual application of the contract; however, they are not a quality control function. QAEs will not direct work or re-accomplishment of work, change the contract, or formally interpret the contract. The ACO resolves these types of issues. Specifically, the QAE will:

19.5.1. (Added) Know the specifications and requirements of the contract.

19.5.2. (Added) Know and maintain proficiency in contract surveillance procedures and requirements.

19.5.3. (Added) Know and apply the procedures for documenting surveillance.

19.5.4. (Added) Know the QAEP and perform surveillance according to the QASP.

19.5.5. (Added) Maintain technical competency in their assigned surveillance area.

19.5.6. (Added) Attain qualification in the appropriate areas before performing evaluations, inspections, or surveillance duties unsupervised.

19.5.7. (Added) Review incoming and outgoing official government and contractor correspondence, as applicable.

19.5.8. (Added) Review the deficiency, time compliance technical order (TCTO), and mishap contractor reports for accuracy, adverse trends, and mission accomplishment. Additionally, review for accuracy and signs contractor logistics reports and forward them to PACAF for possible indicators of performance trends.

19.5.9. (Added) Review all contractor technical order (TO) requirements for waste or abuse. Validate contractor TO requirements (TO 00-5-2).

19.5.10. (Added) Evaluate effectiveness of the contractor's involvement in mishap investigations (AFI 91-204, *Safety Investigations and Reports*).

19.5.11. (Added) When selected, serve as a member of the source selection team.

19.5.12. (Added) Develop monthly surveillance schedules.

19.5.13. (Added) Perform munitions accountable systems officer (MASO) duties if required.

19.6. (Added) QAE Training. The FD/FC and chief QAE are responsible for ensuring QAEs receive required training. The following training requirements apply to all QAEs:

19.6.1. (Added) The ACO provides orientation and training to QAEs on general and specific requirements of contracts to which they are assigned (AFI 63-124). The AETC QAE orientation and training program consists of formal classroom instruction conducted at the base contracting office in two phases. QAEs will complete this training prior to performing surveillance duties. Additionally, formal refresher training is required annually. NOTE: Completion of course 393ATC0066-002, *QAE Maintenance Management Course*, may be used to fulfill the Phase I requirement for all QAE/QARs.

19.6.1.1. (Added) Phase I, General QAE Training. It is conducted by mobile AETC instructors or by QAEPCs using AETC training materials. QAEs must complete this training before performing surveillance duties on contracts in which surveillance procedures apply.

19.6.1.2. (Added) Phase II, Contract Specific Training. Training is conducted by the contract administrator and must be completed for each contract to which the QAE is assigned to surveil. Training will include a detailed review and discussion of the PWS or SOW and will ensure QAEs have proper understanding of necessary surveillance requirements for respective contracts.

19.6.1.3. (Added) Formal Refresher Training. The QAEPC conducts annual refresher training for all QAEs. As a minimum, the training must include policy and procedure changes, a discussion of potential problem trends, QAE surveillance and documentation requirements, *Joint Ethics Regulation (JER)* (DoD Directive 5500.7-R), and other topics as suggested by the ACO, FD/FC, or QAE.

19.6.2. (Added) The FD/FC and (or) chief QAE are responsible for ensuring refresher training, specialty training, and cross-utilization training (CUT) requirements are met.

19.6.2.1. (Added) There are two types of refresher training; formal and informal. Formal refresher training is conducted annually. Informal refresher training is considered an on-the-job continuing process provided as needed.

19.6.2.2. (Added) Specialty training is received through schools and experience throughout a career and is commonly referred to as Air Force specialty code (AFSC) training. CUT training is training received outside the AFSC and is needed to accomplish the QAE surveillance requirements.

19.6.2.3. (Added) Cross-familiarization and utilization of QAE personnel in related AFSCs. CUT training may consist of practical training in a formal training environment.

19.6.3. (Added) Initial orientations and evaluations are accomplished.

19.6.4. (Added) Each area surveilled has a primary and alternate QAE assigned to ensure contract surveillance is accomplished. Alternate QAEs must also possess a maintenance-related AFSC.

19.6.4.1. (Added) QAEs are familiar with surveillance and documentation methods and procedures and surveillance schedules.

19.6.4.2. (Added) QAEs are familiar with emergency procedures to be implemented if default or strike interrupts contractor performance.

19.6.4.3. (Added) QAEs maintain training records if required by AFI 36-2201, *Developing, Managing, and Conducting Training,* and (or) the Career Field Education and Training Plan (CFETP) applicable to their AFSC. As a minimum, all QAEs must maintain an AF Form 797, Job Qualification Standard Continuation/Command JQS, regardless of grade or skill level, which identifies specific responsibilities required by this instruction or other applicable directives. The AF Form 797 is filed and maintained in the QAE work center. Units may elect to use a locally developed automated product in place of the AF Form 797. If this option is used, the product must contain, as a minimum, all the same data elements as the AF Form 797.

19.6.4.4. (Added) QAEs do not need to be certified on specific tasks that they surveil, unless TOs or directives pertaining to the task require inspector certification. However, QAEs inspecting outside their primary AFSC must be CUT trained IAW para **19.6.2. (Added)** of this instruction. Upon completion of the training requirements of this instruction, they are duty position qualified to inspect, surveil and observe work performed by contractor personnel. All QAEs are:

19.6.4.5. (Added) Knowledgeable of the tasks they surveil.

19.6.4.5.1. (Added) Are familiar with all associated safety requirements prior to performing the surveillance.

19.6.4.6. (Added) QAEs requiring special certification authority (red X, etc.) are authorized and designated in writing, either by memorandum (signed by the FD/FC or unit commander) Regardless of the method used, file a copy of the certification with the individual's AF Form 797.

19.6.4.7. (Added) QAE sections obtain needed formal training quotas by coordinating with the QAEPC.

19.6.4.8. (Added) QAEs responsible for surveilling egress operations at contract organizations require training per AFI 21-112, *Aircraft Egress and Escape System*s, PACAF Supplement 1. **NOTE:** QAEs are not required to maintain egress certification; rather, they attend the courses to ensure they are familiar with and can safely surveil egress systems.

19.6.4.9. (Added) QAEs performing surveillance on fuel systems or fuel maintenance facilities will ensure they are familiar with all associated safety requirements prior to performing the surveillance (TO 1-1-3, *Inspection and Repair of Aircraft, Integral Tanks, and Fuel Cell*s).

19.7. (Added) Quality Assurance Evaluation Program (QAEP). The QAEP consists of the plans and procedures developed to implement and administer quality assurance surveillance requirements for functional areas. Programs are established as unit level procedures that implement the requirements of this instruction and include the QASP and the QAE assessment program.

19.7.1. (Added) Development of a QAEP is mandatory with contractor-operated maintenance activities that use a SOW or PWS.

19.7.2. (Added) An effective QAEP ensures:

19.7.2.1. (Added) The contractor fulfills the requirements of the PWS/SOW program.

19.7.2.2. (Added) Evaluations are performed according to the QASP (paragraph **19.8. (Added)**).

19.7.2.3. (Added) Lines of communication are open between the functional areas, contract administrators, QAEs, contracting officer (CO), commanders, and contractors.

19.7.2.4. (Added) Unacceptable contractor performance is documented and acceptable corrective actions are taken.

19.7.2.5. (Added) An effective method to obtain customer feedback on contractor performance is developed and implemented.

19.7.2.6. (Added) QAEs are assessed at least annually to determine the overall quality and effectiveness of their performance (paragraph **19.20. (Added)**).

19.7.2.7. (Added) QAEs are appointed according to this instruction.

19.7.2.8. (Added) QAEs are trained according to this instruction and other applicable directives.

19.8. (Added) The QASP. The purpose of a QASP is to provide a planned process for surveilling the contractor's actual performance and comparing that performance against the contractual requirements to determine conformity with the technical requirements of the contract. It is not intended to supplement or replace the contractor's Quality Control (QC) program. The QASP provides the QAE with information with which they can identify acceptable performance and potential reasons for any non-conforming performance. QASPs incorporate guidance contained in the contract, including the contractors QC program, contractor directives, required publications listed in the contract, applicable portions of advisory publications (Air Force, PACAF, and local), and applicable TOs. All hours of contractor performance are vulnerable to QAE surveillance, to include all shifts, weekends, nights, and holidays, as applicable.

19.8.1. (Added) Successful long-term contract administration is dependent upon adequate communication channels between the QAE, CO, FD/FC, and contractor and upon how well the QASP is written and understood.

19.8.2. (Added) Surveillance may be performed during the completion of contractor QC inspections or independently.

19.8.3. (Added) Regardless of the method used, the actual surveillance is accomplished according to the monthly QAE surveillance schedule (paragraph **19.9. (Added)**).

19.8.4. (Added) Surveillance requirements are identified in the QASP. They are categorized as either technical or observation work area inspections. Guides (in checklist format) are used to perform periodic surveillance and evaluation of observation work areas (paragraph **19.12. (Added)**). Units operating from a PWS that includes a performance requirements summary (PRS) will determine which category each of the inspections listed in their PRS fall into and identify them in the QASP.

19.8.4.1. (Added) Technical Area Inspection Requirements. The FD/FC, Chief QAE, and the CO, using the SOW or PWS as a guide, jointly determine minimum technical area surveillance and inspection requirements and frequencies.

19.8.4.1.1. (Added) CLS contracts follow the applicable technical surveillance guidance identified in para **19.11. (Added)** of this instruction.

19.8.4.2. (Added) Observation Work Area Inspection Requirements. The FD/FC, chief QAE, and the CO, using the SOW or PWS as a guide jointly determine minimum observation work area surveillance requirements.

19.8.4.2.1. (Added) CLS contracts follow the applicable observation work area surveillance guidance identified in para **19.12. (Added)** of this instruction.

19.8.4.2.2. (Added) Evaluation guides are developed for each observation area.

19.8.4.3. (Added) Missed Surveillance or Inspection Frequencies. If minimum monthly surveillance requirements cannot be met due to equipment non-availability or special circumstances, include an explanation on the summary for each missed area and (or) inspection category. In such cases, a statement of FD/FC and ACO approval for the variance is required. When individual surveillance or inspection frequencies are missed for more than one prescribed period notify PACAF in writing.

19.8.5. (Added) In addition to the requirements in the preceding paragraphs, the QASP will:

19.8.5.1. (Added) Clearly identify the QAE's responsibilities.

19.8.5.2. (Added) Identify surveillance techniques and their application, and explain how to document and report unacceptable performance.

19.8.5.3. (Added) The four methods of surveillance available to the QAE include random sampling, periodic surveillance, 100 percent inspection, and customer complaints. (See AFI 63-124 for additional information.)

19.8.5.4. (Added) The sources of surveillance activity include contractor management information systems, observation of task attributes, and observation of contractor performance.

19.8.5.5. (Added) List procedures for acquisition, transfer, and control of government-furnished equipment.

19.8.5.6. (Added) Establish and assign responsibilities for verifying costs of reimbursable items, such as tools and contractor proposals the contractor provides.

19.8.5.7. (Added) Include procedures for development and coordination of monthly surveillance schedules.

19.8.5.8. (Added) Ensure all hours of contractor performance are surveilled on a random basis, to include all shifts, weekends, nights, and holidays, as applicable.

19.8.5.9. (Added) Include a program to regularly, yet randomly, sample supply management aids, such as the D04, M30, D23, R49, D18, D19, R35, M04, S04, and Q13 for signs of waste, abuse, or poor supply discipline.

19.8.5.10. (Added) Establish surveillance requirements to sample foreign object (FO) inspections on aircraft, engine, and support equipment.

19.8.5.11. (Added) Establish procedures to effectively monitor the contractor's compliance with federal, state, and local laws as well as Department of Defense (DoD) and Air Force (AF) directives, and the installation's applicable environmental plans and programs.

19.8.5.12. (Added) Establish a surveillance program to effectively monitor compliance with the contractor's training plan prescribed in the contract to ensure that the training provided is consistent with the contractor's training plan and conforms to their training lesson plans.

19.8.5.12.1. (Added) Surveillance will include random sampling of task qualification and certification training, to include training associated with special certification tasks.

19.8.5.12.2. (Added) Additionally, surveillance will include random quarterly observance of recurring maintenance training requirements.

19.8.5.12.3. (Added) In addition to actually observing the training as it takes place, the surveillance will include a review of training documentation, individual training records, and plans of instruction, if applicable.

19.8.6. (Added) Satisfactory Performance. There may be times when the chief QAE determines surveillance is not required based on a continuing record of satisfactory performance in an area by the contractor. When this is determined to be appropriate the chief QAE, with functional director or commander and ACO approval, will make note of this in the monthly summary. Surveillance will never be skipped more than one prescribed period (month, quarter, etc.)

19.9. (Added) Surveillance Schedules. The QAE is responsible for developing a monthly schedule of surveillance activities based on QASP requirements. The schedule must be completed not later than 7 calendar days prior to the beginning of the period it covers. The FD/FC must review and return the schedule to the QAE no later than the last day of the month proceeding the schedule month. The QAE must provide a copy of the schedule to the contract administrator before the start of the surveillance period. *The surveillance schedule is FOR OFFICIAL USE ONLY and must not be disclosed to the contractor.* Changes to scheduled observations are posted weekly and copies sent to the ACO and FD/FC as requested.

19.10. (Added) Evaluation Guides. Develop a separate evaluation guide for each observation area. The chief QAE reviews evaluation guides annually and documents this review on AF Form 2411, Inspection Document, for each guide. Evaluation guides may be included as part of the QASP and (or) OI for quality assurance evaluation.

19.10.1. (Added) Evaluation guides will be used for the inspection of a particular area; however, area inspections are not limited to the evaluation guide content only. Annotate evaluation guides with the following statement: "Area inspection is not limited to the content of evaluation guide."

19.10.2. (Added) If functions have been combined within an organization, a single evaluation guide may be developed that encompasses the combined functions. Combined functions normally share common elements such as CTK, TOs etc. Functions that are just collocated in the same facility are not considered

as combined. The Chief QAE will determine if an increase to the specific standard for minor discrepancies is appropriate.

19.11. (Added) Technical Areas. Technical requirements are surveilled by performing the quality verification inspections (QVI) technical validation inspections (TVI) and quality control inspections. The QVI is performed only after the fact, while the TVI is an inspection that is accomplished while maintenance is being performed (concurrently) or soon after completion.

19.11.1. (Added) QVI. A QVI is a technical inspection of an item of equipment accomplished by a QAE following a maintenance inspection or repair action. The purpose of a QVI is to determine the overall condition of the equipment and whether or not the maintenance actions were properly accomplished.

19.11.1.1. (Added) The QVI is limited to the same inspection work cards or TOs required for the job. Normally, disassembly of a part, removal of a stress panels, and similar actions are not necessary to accomplish a QVI. The QVI for required -6 TO inspections may be accomplished by checking a minimum of 50 percent of the required inspection items. The quality of equipment determined through the QVI must be reported to the owning work center and other activities contributing to the condition of the equipment.

19.11.1.2. (Added) During QVIs, the QAE reviews appropriate documents and equipment forms (to include the inspection work cards) work unit code manuals, and maintenance checklists for accuracy and currency. Use of Core Automated Maintenance System (CAMS) (or other automated maintenance management systems) deferred discrepancy listing is encouraged. The documented maintenance list, supply requisition inquiry, and event listing are three suitable products.

19.11.1.3. (Added) QVIs are assigned ratings of either acceptable or unacceptable. Unacceptable ratings are assigned when one of the following conditions occurs: a major or red X chargeable discrepancy is detected or the number of chargeable minor discrepancies exceeds the specific standard contained in the SOW/PWS. Acceptable ratings are assigned when the total number of minor chargeable discrepancies does not exceed the applicable specific standard contained in the SOW or PWS.

19.11.2. (Added) TVI. TVIs are used to determine the quality of maintenance during, or soon after, performance of any on- or off-equipment maintenance task.

19.11.2.1. (Added) There are two types of TVIs: over the shoulder (OTS) and after the fact. OTS inspections are performed while an individual or group is actually performing a task. ATF inspections are performed after a task is completed and documented. OTS and ATF inspections may be limited to a portion of a task. ATF inspections are not performed after equipment is operated when such operation can invalidate conditions present when the task was accomplished.

19.11.2.2. (Added) All TVI surveillance requirements identified in unit QASPs will include a percentage of both OTS and ATF inspections. Units will determine these percentages locally and identify them in the QASP.

19.11.2.3. (Added) TVIs (ATF and OTS) are assigned ratings of acceptable or unacceptable. Unacceptable ratings are assigned when one or more of the following conditions occur: a safety violation is detected, a step serious enough to adversely affect the performance of the equipment involved is omitted or improperly completed, or a major or red X discrepancy is identified. Acceptable ratings are assigned when the total number of minor discrepancies does not exceed the applicable specific standard contained in the SOW or PWS.

19.11.3. (Added) Quality control inspections. All units, to include CLS contracts, will identify select technical inspections contained in their QASP for inspection of the contractor's quality control evaluation program. The chief QAE schedules a sufficient percentage of technical inspections as follow-up or OTS QC inspections to ensure the contractor is fully meeting their QC plan. These inspections may be performed in conjunction with other inspection requirements. If this option is used, document each inspection independently. Include these requirements in the QASP and the monthly surveillance schedule.

19.12. (Added) Observation Areas. Observation work areas are surveilled by performing inspections in specific work areas utilizing inspection criteria that are part of the QASP and reflected in the PWS/SOW. Observation inspections may be either scheduled or unscheduled.

19.12.1. (Added) As a minimum, each work area inspection will include the following critical items, if applicable:

19.12.1.1. (Added) Tool management, FO prevention, and housekeeping procedures. Ensure all applicable areas and facilities are included, such as flight line, hangar, maintenance facilities, and jet engine operating areas.

19.12.1.2. (Added) Supply procedures, TO maintenance, AFTO Forms documentation, and recording of information in automated systems such as CAMS (includes all subsystems), PMEL Automated Management System (PAMS), Automated Oil Analysis, and any other automated system that includes aircraft or equipment information.

19.12.1.3. (Added) Additionally, observation areas are inspected for physical security, conservation of utilities, safety, fire prevention, environmental protection, and facilities management.

19.12.1.4. (Added) Chief QAEs should consider placing these minimum requirements into a single general guide. Shop evaluation guides should contain minimum inspection areas or items and not include overwhelming requirements, which may cause an over inspection of a particular area.

19.12.2. (Added) Scheduled observation area inspections are normally scheduled inspections performed by using observation area evaluation guides. They are rated either acceptable or unacceptable. An unacceptable rating is assigned when a major discrepancy is identified or minor discrepancies exceed the applicable specific standard. Acceptable ratings are assigned when no major discrepancies are identified and the number of minor discrepancies does not exceed the applicable specific standard contained in the PWS. The Chief QAE may consider it appropriate to adjust the specific standard up or down based on the size of the observation work area or because functions have been combined. If adjustments are made they must be reflected in the QASP.

19.12.3. (Added) "As observed" inspections are unscheduled inspections/observations. They occur when discrepancies or deficiencies are observed or discovered that are not directly associated with a scheduled inspection. "As observed" deficiencies must be documented and reported.

19.13. (Added) Discrepancy Categories. To ensure consistency when determining severity of discrepancies, the following definitions and criteria apply to technical and observation area inspections. These definitions also need to be included in the QASP:

19.13.1. (Added) Major Discrepancy. A discrepancy that judgment and experience indicate is likely to result in a hazardous or unsafe condition or is likely to result in failure or reduce materially the usability of aircraft or equipment to include any major part thereof. Discovery of any of the following conditions will be categorized as a major discrepancy:

19.13.1.1. (Added) Improper or untimely documentation of red X discrepancies on aircraft, trainer, or equipment AFTO Forms (to include automated system entries).

19.13.1.2. (Added) Foreign object (FO) within 50 feet of an aircraft parking or engine operating area.

19.13.1.3. (Added) Test, measurement, diagnostic equipment (TMDE) overdue calibration or when calibration status cannot be verified.

19.13.1.4. (Added) Violation of OSHA and (or) AFOSH Standards. (**NOTE:** Discrepancies that do not present a safety hazard or create an unsafe or potentially unsafe conditions are not considered major. QAEs will use experience and judgment in determining the severity of such discrepancies.)

19.13.1.5. (Added) Violation of environmental protection federal, state, or local laws and (or) Department of Defense or Air Force policies and directives.

19.13.1.6. (Added) Overdue time change and inspection items (-6 TO asterisk items) and unauthorized engine over-flies.

19.13.1.7. (Added) Any errors in cartridge actuated device/propellant actuated device (CAD/PAD) verification documents.

19.13.1.8. (Added) Any long-term inspections not loaded; any due time errors or improperly loaded low cycle fatigue cycle items.

19.13.1.9. (Added) TO violations or violations of mandatory directives, as supplemented.

19.13.1.10. (Added) Use of out-of-date technical data, or improper use of tools, which may cause damage to government property or injury to government personnel.

19.13.2. (Added) Minor Discrepancy. A discrepancy that is not likely to reduce, materially, the usability of aircraft, trainers, or equipment or is a departure from established requirements having little impact. NOTE: If the QAE determines it is appropriate, minor discrepancies that consist of a grouping of like deficiencies; for example, a bench stock with 6 co-mingled bins, 10 bins not flagged, and 4 bins with torn labels may be documented as one discrepancy against the observation guide.

19.14. (Added) Documentation File Inspections. Documentation file inspections for aircraft, support equipment, and engines are rated. The inspections include review of the status and historical documents (including automated documents) for the previous 60 days. Discrepancies found in the historical document files are sent to the contractor for corrective action. Actual discrepancies are not corrected except for items of a historical nature, including automated documents that can be verified from other sources. Specifically:

19.14.1. (Added) Each incorrect clearing of a red X symbol, erasures of symbols, overdue time change items, and overdue inspections caused by improper documentation are considered major discrepancies. The correct use and clearance of red X symbols must be items of special attention during documentation file inspections. QAEs must ensure unsafe or unfit for operation conditions were represented by red X entries and these entries were properly cleared.

19.14.2. (Added) Documentation errors on forms initiated at other than the home station or generated by non-maintenance personnel are not chargeable against the contractor but must be corrected if the deficiency affects historical or automated information.

19.14.3. (Added) A major discrepancy or more than three minor discrepancies will result in an unacceptable rating. All other conditions will be rated acceptable. (The chief QAE may lower the baseline for minor discrepancies on support equipment if appropriate.)

19.15. (Added) FO Inspections. Establish a monthly schedule of FO inspections within the QASP to sample aircraft, engines, and support equipment. Route a copy of FO inspection reports to the unit foreign object damage (FOD) prevention program manager, as required, to meet the requirements of AFI 21-101, *Maintenance Management of Aircraft.*

19.16. (Added) Documentation of Safety Violations. If QAEs identify violations of OSHA or AFOSH standards, that "clearly" present a potential to damage government resources, they document the violations and forward the report to the ACO for action. (NOTE: Discrepancies that do not "clearly" present a safety hazard or create an unsafe or potentially unsafe conditions are not considered major. QAEs will use experience and judgment in determining the severity of such discrepancies.)

19.16.1. (Added) The QAE observing any act that could cause immediate injury to personnel or damage to property will take immediate action to stop the unsafe act.

19.16.2. (Added) Except as specified for TVIs and observation area surveillance, do not use "as observed" safety violations to determine contractor compliance with QASP requirements.

19.17. (Added) Training Observations. QAEs will assign a pass or fail rating to contractor training observations based on whether or not the training observed meets contract requirements and intent of the contractor's training plan as well as the objectives of the training being provided.

19.18. (Added) Validation of Information. The chief QAE will verify statistical information provided by the contractor that concerns the standards specified in the applicable contract to ensure accuracy, completeness, and adequacy, and coordinate this information with supply and operations prior to final validation when applicable. For award fee contracts, the chief QAE forwards the applicable information to the functional director/commander. (EXCEPTION: The senior functional check flight (FCF) pilot validates FCF release rates, if applicable.)

19.19. (Added) Compiling Results. Compute individual inspections, technical area, observation area, and overall results as follows: Total number of inspections rated satisfactory divided by the total number of inspections multiplied by the 100-percent rate.

19.20. (Added) QAE Assessment Program. This program provides the FD/FC with a means to assess the overall quality and effectiveness of the unit's QAE performance in surveillance of the contract requirements. As a minimum, the FD/FC will use the program assessment metrics to administer the program. Specifically, the FD/FC will:

19.20.1. (Added) Establish a QAE assessment program based on the individual unit size, needs, and mission requirements. Include this program in the QAEP operating instruction.

19.20.2. (Added) Select a third party to annually assess the QAE program. If possible, the third party selected should have a maintenance or contract surveillance background. The following quality assessment metrics would be used as a minimum:

19.20.2.1. (Added) Does the QASP cover all flight line and shop locations during all shifts, including weekends?

19.20.2.2. (Added) Is there a QAE training program available and are QAEs adequately trained?

19.20.2.3. (Added) Does the QASP include all areas of the contract?

19.20.2.4. (Added) Is the QAE unit effectively implementing a QASP?

19.20.2.5. (Added) Do evaluation guides adequately cover all areas of the contract?

19.20.2.6. (Added) Is the QAE unit effectively identifying contract problems and concerns and forwarding these to the FD/FC and ACO?

19.20.2.6.1. (Added) Are follow-ups performed on those areas?

NOTE: The requirements listed above are minimum requirements and should be expanded upon to reflect each unit's program. Each metric will be assessed as: "does not meet," "meets," or "exceeds requirements." All metrics assessed as does not meet or as exceeds requirements will include an explanation.

19.21. (Added) Surveillance Documentation. Use forms specifically prescribed in the contract, or a locally devised form to document discrepancies. When a discrepancy is discovered, it must be documented, the contractor is notified as soon as the surveillance is completed and asked to initial the document on which the observation is recorded. If the contractor representative refuses to initial, it is so noted by the QAE. A date and time the discrepancy was discovered is annotated and the contract representative is asked to correct the problem. Errors found in services not scheduled for observation should be documented and brought to the attention of the contractor but not used to determine performance acceptability.

19.21.1. (Added) If at any time during the surveillance period, the results of surveillance show that the number of unacceptable observations does not meet standards or performance requirements, and the QAE determines it is not government caused, the QAE initiates documentation using a locally produced form, or form(s) specified by the applicable contract.

19.21.2. (Added) The report is forwarded to the CO for evaluation. If the CO determines it is appropriate, the report is sent to the contractor, with return receipt requested. The contractor has 15 calendar days from date of receipt to return the report to the CO with a response as to cause, corrective action, and actions taken to prevent recurrence.

19.21.3. (Added) The CO, in consultation with the QAE, evaluates the contractor's response and takes appropriate action.

19.21.4. (Added) Use AF Form 714, Customer Complaint Record, to document customer complaints.

19.22. (Added) Surveillance Reviews. Forward all surveillance documentation to the CO for review within 10 workdays after the end of each month.

19.23. (Added) CLS/CFT Contract Management. The terms QAE, QAR, TRCO, PMCO, and any other terms used to describe government personnel appointed to surveil contracts are synonymous and are distinguished only by the CLS contract written for a specific weapon system. PACAF has a variety of contracts associated with aircraft and systems support. The weapon system program directors (SPD), their staffs, and procuring contracting officer (PCO) are located at ALC. The ACO resides at a regional defense contracting management area office and interfaces routinely with the appointed FD/FC, Project Officer, PCO, and the QAE, QAR, TRCO, and PMCOs who monitor the contracts. Support agreements, and the specific contract outline duties and responsibilities. These duties and responsibilities are further defined by the individual contract PCO and ACO and are delegated to senior Air Force representatives at each main operating base that utilizes the weapon system.

19.23.1. (Added) Aircraft CLS contracts vary slightly between weapon systems, depending on the supplies and services provided by the CLS contractor. Total System Performance Responsibility (TSPR) and Contract Field Team (CFT) contracts are some examples. In either case, the operating unit may be tasked to provide contract surveillance. The specific contracts or AFI 21-127 many contain guidance that is in addition to the requirements in this instruction. QARs should identify any conflicts of guidance to the respective Weapon System Functional Manager for resolution.

19.23.2. (Added) Contractor Field Teams provide specific labor and services for a weapon system. A workload agreement between the unit, Air Logistics Center, and Defense Contract Management Agency further defines the scope of work, outlines specific requirements, and specifies individual responsibilities. Total System Support provides depot level acquisition and sustainment requirements necessary to support the mission, operation, and continued combat capabilities of a given weapon system.

19.24. (Added) Functional Director/Commander, Project Officer, QAE, QAR, TRCO, and PMCO Responsibilities. These individuals must have a thorough understanding of the CLS/CFT concept and scope to fulfill their duties. As a minimum, they must have a copy of the contract and the applicable Work Statement. They must also understand the differences between Site Services, System Support, CLS contracts, and the interface of them when they support a weapon system at one location.

19.25. (Added) CLS Surveillance Requirements. This paragraph identifies specific surveillance requirements particular to CLS contracts. The QAE, QAR, TRCO, and (or) PMCO surveilling these CLS contracts will:

19.25.1. (Added) Be thoroughly familiar with the CLS concept, SOW/PWS, and any applicable command/unit agreements.

19.25.2. (Added) Review CLS contract amendments and airworthiness directives, service bulletins, and service instructions received for the weapons system. Air Logistics Center SPD, in coordination with PACAF, determines the implementation of technical directives.

19.25.3. (Added) Attempt to resolve technical problems at the lowest level possible. If problem resolution is beyond local capability or has contractual implications, the problems should be elevated through the applicable PACAF functional manager to the PCO for the contract. The FC, QAE, QAR, TRCO, or PMCO is not empowered to make contractual decisions.

19.25.4. (Added) Attend program management review and technical interchange meetings as scheduled by the ACO or SPD, as applicable.

19.25.5. (Added) Work closely with the contracting ALC or ACO/PCO in developing a QASP, as described in this chapter, that provides a planned process for surveilling the contractor's actual performance and comparing that performance against the contractual requirements to determine conformity with the technical requirements of the contract. The QASP provides the QAE with information with which they can identify acceptable performance and potential reasons for any non-conforming performance.

19.25.6. (Added) Serve as a member of the re-competition source selection board when directed.

Attachment 1

GLOSSARY OF REFERENCES AND SUPPORTING INFORMATION

References

AFI 11-202, *Aircrew Standardization/Evaluation Program*

AFI 21-101, Aerospace Equipment *Maintenance Management of Aircraft*

AFMAN 23-110, Volume 6, *Excess and Surplus Personal Property*

AFI 24-302, *Vehicle Maintenance Management*

AFMAN 24-307, *Procedures for Vehicle Maintenance Management*

AFI 25-301, *Acquisition and Cross-Servicing Agreements Between the United States Air Force and Other Allied and Friendly Forces*

AFI 36-2248, *Operation and Management of Aircrew Training Devices*

AFI 38-401, *The Air Force Suggestion Program*

PACAFI 21-104, *Procedures Concerning Consolidated Jet Engine Intermediate Repair*

PACAFI 36-2202, *Aircraft Maintenance Training Program*

AMCI 21-111, *RAMP Inspection Program*

TO 42El-l-l, *Aerospace Hose Assembly*

TO 42E2-1-2, *Identification, Use and Disposition-Hyd Packing and Gaskets*

Abbreviations and Acronyms

AF—Air Force

AFMS—Air Force Manpower Standard

AI—Activity Inspections

AMOCC—Air Mobility Operations Control Center

ARC—Automated Records Check

CMC—CITS Maintenance Codes

CMR—CITS Maintenance Recording

CSO—Concurrent Servicing Operations

DCMAO—Defense Contract Management Office

DTUC—Data Transfer Cartridge

ERRC—Engine Regional Repair Center

FD/FC—Functional Director /Functional Commander

IIB—Individual Issue Bins

IPDS—Idea Program Data System

LCOM—Logistics Composite Model

LL—Lean Logistics

MTF—Maintenance Training Flight

NICAD—Nickel Cadmium

PFP—Partnership for Peace

QAE—Quality Assurance Evaluator

QAEP—Quality Assurance Evaluation Program

QAEPC—Quality Assurance Evaluator Program Coordinator

REDCAP—Readiness Capability

SFO—Simulated Flameout

SGO—Sortie Generation Operation

YY—Other

Terms

Concurrent Servicing Operations (CSO)—Simultaneous loading/unloading of munitions, fueling, aircraft reconfiguration, and may include aircraft -6 inspections and other aircraft servicing. Other servicing may include oil, nitrogen, and hydraulic fluid. Oxygen servicing will not be accomplished during fuel servicing.

Concurrent Servicing Supervisor (CSS)—7-Level safety supervisor responsible for on-site supervision of all aspects of fuel servicing operations and munitions loading or unloading and aircraft reconfiguration operations, while being performed concurrently. The key element in determining the requirement for a CSS is fueling; *when fueling operations aren't being performed, a CSS is not required.*

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